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TRANSVAALSE AFDELING
NATUURBEWARING

MAART 1970 NOMMER 20

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VOORBLAD: 'n Pasgebore njala-lammetjie afgeneem in die Loskopdam-natuurreservaat deur R. N. Grafton.

TRANSVAALSE PROVINSIALE ADMINISTRASIE AFDELING NATUURBEWARING

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Fauna & Flora is 'n amptelike publikasie van die Transvaalse Afdeling Natuurbewaring en word gepubliseer vanaf die Hoofkantoor van die Afdeling, Kerkstraat, Pretoria.

Intekening is gratis. Skriftelike aansoeke moet gerig word aan: Die Direkteur van Natuurbewaring, Privaatsak 209, Pretoria, Transvaal, Republiek van Suid-Afrika.

Gedruk in die Republiek van Suid-Afrika
deur Heer Drukkers (Edms) Bpk, Pretoria

ons nuwe tydskrif

Dit is die eerste uitgawe van die veranderde Fauna & Flora tydskrif en daar word vertrou dat hierdie nuwe uitgawe 'n nuttige skakel sal vorm tussen ons, die Transvaalse Afdeling Natuurbewaring, en u, die leser. Die nuwe Fauna & Flora, wat na verwagting kwartaalliks sal verskyn, vervang die semi-wetenskaplike tydskrif wat jaarliks gepubliseer is. Die bestaande lys van intekenaars sal behou word en u word daarop gewys dat die tydskrif in Engels of Afrikaans beskikbaar is.

Alhoewel Fauna & Flora in formaat verander het, het die oorspronklike naam behoue gebly. Ons het werklik probeer om 'n nuwe naam te vind, maar dit het gou geblyk dat daar nie 'n beter naam vir die tydskrif is nie. Fauna & Flora behels alle lewe in sowel die diere- as die planteryk. Die diereryk kan strek vanaf erdwurms, insekte, visse, paddas, slange en muise tot by die verskillende boksoorte. Die planteryk dek net so 'n wye veld - ligene, mosse, grassoorte, lelies, madeliefies, struike en groot bome. Al hierdie verskillende lewensvorms, tesame met grond, water, lig en lug, vorm die samestelling van die natuur, die onskatbare bron waarsonder ons wêreld 'n leë, somber gebied sou wees.

Daar is 'n groot verskil tussen die natuurbewaringsbegrippe van vandag en dié van twee of drie dekades gelede. Die verskil lê daarin dat ons vandag 'n baie groter biologiese kennis tot ons beskikking het as voorheen, en ook dat die indringing van die snel-ontwikkelende beskawing tot gevolg het dat daar op die gebied van natuurbewaring soveel meer gedoen moet word. Natuurbewarings-afdelings is daar om die regte rigting aan te wys, maar dit is nogtans die man in die straat, op die plaas, of in die fabriek wat direk verantwoordelik is vir die beskerming en heropbouing van ons natuurlike hulpbronne. Daarom is dit belangrik dat almal bewus moet wees van die dreigende probleme en gevare, asook die beste manier om die gevare effektief te bekamp.

Met die artikels wat in Fauna & Flora gepubliseer word, sal dus gepoog word om nie slegs die leser te vermaak nie, maar ook om sy belangstelling te prikkel en hom informasie te bied. 'n Belangstelling in natuurbewaring en die buitelewe is prysenswaardig, maar die publiek se belangstelling neig om té passief te wees. Om die natuur ten volle te geniet, moet 'n mens deel hê in, en ook bydra tot die natuur. Maar wat van die talle mense wat hulle lewe slyt in die beton-oerwoude van ons stede? Ons kan nie daarop aandring dat hulle na buite kom om die vars lug, die statige bome en die sprankelende waterstroom te geniet nie. Maar ons kan hulle wel vra om die natuur te help bewaar.

Die chemiese-ingenieur, die verkoopsman met sy insekdoders, die mense wat die land ontwikkel en die paaie bou, die motoris en die rommelvark - hulle almal, is reeds besig om elk op sy eie manier die natuur te beïnvloed. Deur te dink voordat hulle doen, kan diesulkes die slegte gevolge van hulle dade verminder. Met oordenking kan hulle selfs waardevolle ondersteuners van natuurbewaring word.

Dit is voorwaar nie 'n maklike taak wat aan die veldwagter, die visserybestuurder en die bioloog, opgedra is nie. Maar dit is selfs nog moeiliker vir die man in die straat om sy deel by te dra. Dit is ons wens en voorneme dat die bladsye van Fauna & Flora sal help om die gaping tussen die vakkundige en die leek te oorbrug, sodat al hoe meer mense ons ongerepte natuur kan geniet sonder die knaende kommer dàt dit binnekort nie meer daar sal wees om te geniet nie. R.N.G.

bourke's luck kolkgate

DEPT. VAN LANDBOU EN VISSERYE
NAVORSINGSINSTITUUT VIR PLANTKUNDE
BOTANICAL RESEARCH INSTITUTE
DEPT. OF AGRICULTURE AND FISHERIES

In Oos-Transvaal, by die samevloeiing van die Blyde- en Treurriviere, is daar van die mooiste spoelgate wat in ons land gevind kan word. Daar is egter geen risiko vir die motoris aan hulle verbonde nie, want hulle is nie in die pad nie, maar wel in 'n klipperige rivierbedding aan die rand van die Blyderivierspoort.

Dit is die krag van spoelende water wat die gladde, silindervormige kolkgate uit die rotse geslyt het. Vir ontelbare jare reeds het die Blyde- en Treurriviere deur die rotsagtige kloof gestroom en met slegs millimeters op 'n keer, die platorand van die Drakensberg weggeslyt. In die rivierwater was daar ronde klippe, wat so glad geslyt was as gevolg van die wrywing tussen die klippe onderling en die water. Wanneer een van dié spoelklippe in 'n holte op die rotsbodem beland het, het die maalproses begin wat uiteindelik 'n kolkgat sou word.

Die draaiende beweging van die water het die klip om en om laat spoel, en sodoende die holte in die rots al dieper laat word. Al hoe meer spoelklippe het gaandeweg in die holte gevang geraak en sodoende die maalproses versnel - maar dit was nogtans 'n baie langdurige proses. Duisende jare en tallose somervloede het so verbygegaan. Die oorspronklike klippe het natuurlik tot niet gegaan, maar ander groteres het weer hulle plek ingeneem. As gevolg van die malende draaikolk het dié klippe ook spoedig glad en rond geword, al was hulle oorspronklik skerp en hoekig.

Die Treurrivier vloei reghoekig in die Blyderivier in en as die riviere in vloed is, is daar 'n sterk draaikolk in die water - 'n moontlike rede waarom daar so baie spoelgate by hulle samevloeiing is. Die kolkgate is meestal vyf tot tien voet diep, en net soveel voet in deursnee. Sommige spoelgate is twintig of meer voet diep, maar dit is die oudste gate en meestal het hulle kante al begin verbrokkel. In ander gevalle weer, het die water 'n geut in die rand van die gat gespoel, sodat die water direk oorvloei na die middel van 'n tweede kolkgat laer af. In een geval het die malende klippe onder in die kolkgat 'n deurbraak gemaak na 'n aangrensende kolkgat - waarin die water nou met 'n draaiende beweging van onder af boontoe opstoot.

'n Paar honderd tree vanaf die kolkgate is daar 'n verlate goudmyn. Daaruit is werklik goud ontgin, nie lank na die wilde goud-stormloop, wat in die vorige eeu in die omgewing van Pelgrimsrus plaasgevind het nie. Die Bourke's Luck kolkgate is vernoem na 'n vroeëre myner met die naam van Bourke wat dit gelukkig getref het, en baie geld gemaak het uit sy myn. Die twee riviere het weer hulle name ontvang van die Potgieter Trek - wat 'n aantal manne op 'n verkenningstog na die laeveld gestuur het. Toe die manne nie op datum terugkom nie, het die trekkers die rivier waarlangs hulle gekamp het, die Treurrivier genoem. Hulle het verder getrek, en langs die oewers van 'n tweede rivier die vermiste verkenners gevind, veilig en ongedeerd. In hulle blydskap het die trekkers die rivier die „Blyde" gedoop.

Vanaf die kolkgate val die rivier skielik 2,000 voet na die skilderagtige prag van die Blyderivierspoort. Dit vorm alles deel van 'n natuurreservaat van 26,450 morg groot, wat deur die Transvaalse Afdeling Natuurbewaring beheer word. Hierdie reservaat strek vanaf die poort in die noorde, al langs die platorand van die Drakensberg tot amper by Graskop in die suide. 'n Groot ruskamp, met 'n pragtige uitsig oor die laeveld, nader tans voltooiing. Huisvesting en ander geriewe sal egter eers laat in 1970 vir die publiek gereed wees. Die teerpad wat toegang verleen na die kamp kom vanaf naby die Strydomtonnel tot by die poort en gaan dan verder tot by die kolkgate. Hiervandaan gaan gruispaaie verder na beide Graskop en Pelgrimsrus. Die kolkgate kan op hulle beste besigtig word vanaf die voetgangersbruggies wat oor hulle opgerig is. Fotograwe sal baie mooi foto's kan neem van die kleurvolle resultate van eeue se rotserosie. ☐

hoogvat

deur R. N. Grafton

As gevolg van moderne immobiliseringsmiddels is dit deesdae relatief maklik om wild te vang maar baie min mense besef hoe moeilik dit was om die regte vang-metodes te ontwikkel. Vóór die ontwikkeling van die middels moes die wild òf in hokke òf met nette en strikke gevang word. Maar hierdie metodes was stadig en onbetroubaar en boonop gevaarlik vir beide die gevangde en die vanger. Vir kameelperde, wat so lank en sterk is, was immobiliseringsmiddels eintlik die enigste oplossing vir die probleem.

Die Transvaalse Afdeling Natuurbewaring het, voor die koms van die sterk chemiese middels, altyd die kameelperde met die hand gevang. Die vlugtende kameelperde was gejaag deur vasbeslote veldwagters te perd. As hulle gelukkig genoeg was dat takke en bosse hulle nie van hulle perde afgevee het nie, en indien hulle vinnig genoeg kon jaag, het hulle die kameelperd ingejaag en hom aan sy stert gevang! Dit was egter 'n baie gevaarlike prosedure en boonop selde heeltemal suksesvol.

Toe kom die oorskakeling na verdowingsmiddels en inspuitpyltjies. Die nuwe middel was M99, die pyltjie was 'n delikate, handgemaakte meganisme, en die skietkrag was verskaf deur 'n sterk, moderne kruisboog. Maar daar het nogtans probleme opgeduik. Sodra die M99 begin werk het, het die kameelperd begin waggel en slinger en dan hard op die grond neergeslaan. Sy lang bene, langer nek en die nog langer afstand na die grond was te veel vir die dier en beserings was onvermydelik. 'n Verminderde hoeveelheid van die middel was getoets in die hoop dat die kameelperd nog op sy voete sou bly, maar mak genoeg sou wees om te vang.

In die begin het alles goed gegaan, en drie kameelperde is met hierdie metode gevang - grootliks egter omdat die omgewing, gelyke grond en lae struike, gunstig was. Die volgende twee kameelperde wat ingespuit was, het egter in ongelyke grond met digte bosse beweeg. Namate die verlammiddel begin werk het, het hulle soos gewoonlik hulle ore platgetrek en op 'n struikelende draffie weggehardloop. Die verwagtinge van die veeartse en veldwagters is weer eens verydel deurdat die kameelperde hulle balans verloor en geval het. Dit was nou duidelik dat die kameelperde gevang moes word voordat hulle té ver kon hardloop.

Kon die hardlopende kameelperd nie dalk gekeer word deur 'n swaar tou wat in sy pad gespan word nie? Sy vlug was maar redelik stadig en as gevolg van die uitwerking van die middel, sou hy nie kon uitswenk nie. As die veldwagters net vóór die dier kon kom, dan sou hy hom sekerlik in die tou vashardloop. Wat dan daarna sou gebeur kon 'n mens alleen maar raai. Want al is hy verdoof, bly die hoewe van 'n kameelperd nogtans iets om met respek te behandel!

Nadat 'n tou van 70 vt. lank en twee duim dik in gereedheid gebring is, is nog 'n kameelperd ingespuit. Hy het geskrik vir die prik van die naald, 'n paar tree gehardloop en daarna bly stilstaan. Vir hom het alles veilig gelyk, behalwe net 'n verlammende gevoel wat deur sy spiere versprei het. Presies op tyd, drie minute na die inspuiting, het hy sy ore platgetrek en begin hardloop. Die vangspan het hom versigtig in 'n bakkie gevolg, maar tot groot konsternasie, het hy nou in die rigting van 'n klipperige sloot begin hardloop. Sou hy moontlik reageer op 'n poging om hom weg te keer? Met 'n skielike versnelling van spoed het die bakkie tussen hom en die sloot inbeweeg, en hom gelukkig laat wegdraai na veiligheid.

Terug op gelyke grond, was dit duidelik tyd om die tou te probeer gebruik. Met weereens 'n spoedversnelling was die bakkie nou gelyk met die vlugtende

Hierdie kameelperde, wat met reusetreë hardloop, is 'n ideale grootte om te vang en te vervoer.

vanweë hulle lengte en hulle fyn liggaamsbou is kameelperde van die moeilikste diere om te vang

kameelperd. Die verlammingsmiddel se uitwerking het die kameelperd nou heelwat stadiger laat hardloop. In en uit tussen die bome en struike, het die bakkie nou effens vinniger as die kameelperd beweeg. Die vangspan het van die bewegende voertuig afgespring, en met die tou op armhoogte gehou, het hulle voor die kameelperd ingehardloop. Dit was 'n spannende oomblik - wat sou nou gebeur?

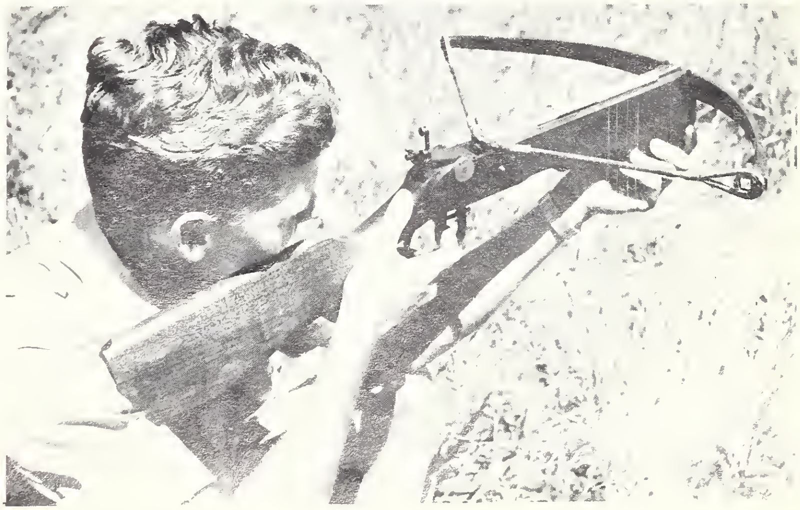
Met verdoofde vasberadenheid het die kameelperd blindelings aanhou hardloop - vas in die tou. Die skielike ruk het sommige veldwagters van hulle voete afgeruk, maar die ander het gehou. Nou was dit 'n tou-trekkery om die dier tot stilstand te dwing. Met kalm spanwerk het hulle dit tog eindelik reggekry. Vinnig het hulle die tou nog 'n maal om die kameelperd gedraai, en kon die vangspan nader kom. Nadat hulle die inspuitpyl verwyder het, het hulle hom met 'n goeie stoot op sy sy gekeer. Uiteindelik geslaag!

Met sy lang nek gestut, en sy kop in die beskermende arms van James van Rooyen, die leier van die vangspan, het hulle nou 'n blinddoek en 'n halter om sy kop geplaas. Daarna het hulle die kameelperd met die teenmiddel vir M99 ingespuit. Binne 60 sekondes was die kameelperd se spiere weer reg, en het sy kop ook helderder gevoel. Met 'n stewige hou-vas op die twee haltertoue het die veldwagters nou teruggestaan, terwyl hulle gevangene tot sy volle lengte herrys het - ewe fris en gesond. Vanweë die blinddoek, kon hy nou slegs sy vangers ruik en hoor. Hulle het hom stadig in die rondte gelei terwyl hulle op die vervoerlorrie gewag het.

Dit is nie 'n maklike taak om 'n kameelperd in 'n hoë krat te kry nie. Eerder as om die krat van die bak af te neem, ry die lorrie in trurat in 'n sloot totdat die bakoppervlakte gelyk met die grond is. Die agterklap word neergelaat en toegemaak met grond, om die kameelperd te flous. Hoog langs die kante van die krat is planke waarop die helpers kan beweeg, en hoog bo die kajuit van die lorrie is daar 'n sitplek vir die persoon wat die kameelperd se kop sal vashou.

'n Injeksie-spuit vol immobiliseringsmiddel word voorberei om in die pyl gelaai te word.

Die pyl, gevul met die verlammingsmiddel, word na die kameelperd geskiet deur middel van 'n kruisboog.



Enkele oomblikke nadat die teenmiddel toegedien is, staan die kameelperd op - nog effens wankelrig op sy voete.

Met spanwerk en in stilte word die geblinddoekte gevangene na die krat gelei waarin hy vervoer sal word.

As almal in stilte gereed is, word die niksvermoedende kameelperd kalm na die oop hok gelei. As hy skrik met die eerste probeerslag, word hy weer nader gebring, nou net effens vinniger. Met versnelde pas word hy oor die agterklap gelei, binne-in die krat. Nou moet daar vinnig opgetree word om te verhoed dat hy retireer of gaan sit! Die glydeur van die krat word vinnig in posisie geplaas en die kameelperd word in 'n gemaklike staande houding vasgegéspe. Nou word hy ingespuit met antibiotika, en is hy gereed vir sy reis na 'n nuwe tuiste.

Kameelperde is nie 'n skaars of bedreigde wildsoort nie - waarom dan word so baie energie en vindingrykheid aan die dag gelê om hulle te vang? Die groot rede is dat die kameelperd nou in 'n baie beperkte gebied in Suid-Afrika voorkom, en natuurbewaarders sou verkies dat hulle oor 'n wyer gebied versprei moet wees. In die Nasionale Krugerwildtuin is daar tans meer as 3,000 kameelperde, maar dit is te gevaarlik om al 'n mens se eiers in één mandjie te pak! Buite die grense van die Park is die aantal kameelperde baie beperk en enkele jare gelede was daar geen ander natuurreservaat in die land wat kameelperde besit het nie.

Die Transvaalse Afdeling Natuurbewaring is besig om, deur middel van die kameelperd-vang projek, die verspreiding van dié diersoort te verbeter. Ons uiteindelike doelwit is om kameelperde te verskaf aan alle provinsiale natuurreservate wat oor 'n geskikte habitat beskik. In die toekoms, eers wanneer genoeg teeltroppe daargestel is, sal kameelperde selfs aan die publiek beskikbaar gestel kan word - op voorwaarde dat hulle 'n groot genoeg plaas het, met geskikte habitat. As daar nie bek- en klouseer beperkings was nie, sou kameelperde vanaf die Krugerwildtuin versprei kon word. Om die verspreiding van bek- en klouseer egter te beperk, moet kameelperde en ander wild van bronne buite die kwarantyn gebied verkry word.

Die Afdeling se grootste teeltrop is in die Hans Merensky-natuurreservaat. Hier is daar alreeds 60 of meer kameelperde gevestig - wat almal òf daarheen gebring is, òf daar gebore is. Kleiner troppe is gevestig by Loskopdam- en Langjanreservate en ook by Tshipise, Warmbad en Thabazimbi.

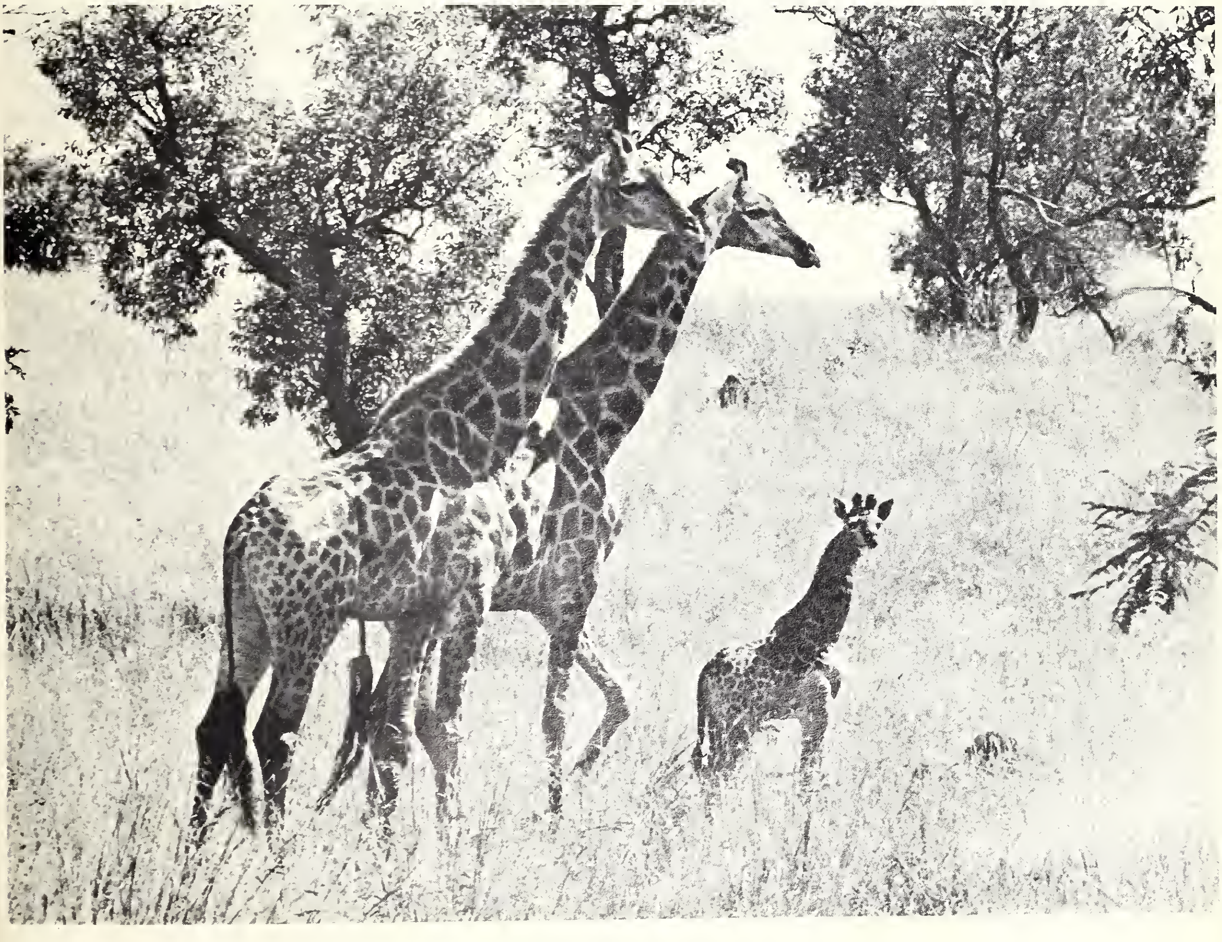
Vir vyftig jaar was kameelperde alleenlik beskikbaar in verafgeleë plekke, maar vandag is hulle maklik te sien - selfs minder as 'n uur per motor, vanaf Pretoria!

Stadig maar seker is ons besig om dit vir ons kinders moontlik te maak om die langste dier ter wêreld te besigtig - nie as 'n aardigheid in 'n dieretuin nie, maar as 'n pragtige en grasieuse dier wat wei waar daar wilde bosveld in die Transvaal gevind kan word. ☐

Die begin van die reis na 'n nuwe tuiste!

Hierdie groot babas verwelkom te enige tyd 'n bottel melk! Normaalweg bestaan hulle dieet uit vars groen blare en lusern.

Ná loslating in die Loskopdam-natuurreservaat, hou die trotse ouers 'n wakende ogie oor hul eerste spruit.



visserybestuur in transvaal

Varswater hengelary is sonder twyfel een van die vernaamste vorms van buitelug ontspanning in Transvaal. Verlede seisoen is daar 92,000 hengellisensies in die provinsie verkoop, maar as kinders en die eienaars van hengelwaters hierby ingesluit word, dan is die getal aktiewe hengelaars nader aan 120,000.

Die Transvaalse Afdeling Natuurbewaring is verantwoordelik vir die beheer en bevordering van sporthengelary in die provinsie en 'n groot gedeelte van die Afdeling se personeel wy hulle aandag aan hierdie taak. Visserybestuur behels baie meer as net die blote teel van vis. In die eerste plek moet die hengelwater ontleed word om die fisiese, chemiese en biologiese samestelling daarvan te bepaal. Bioloë besluit hiervolgens of die waterhabitat of die betrokke vispopulasie self verbeter moet word. Bestuurspersoneel is dan verantwoordelik vir die uitvoering van die veranderings. Voorbeelde hiervan sluit die volgende in: uitskakeling van waterbesoedeling, wysiging van die fisiese kenmerke van die habitat, die herstel van óorbevolking van 'n sekere vissoort deur gebruik van 'n roofvis, en die loslating van een of meer bestaande of nuwe soorte.

'n Interessante aspek van visserybestuur is dat die hengelaar self doeltreffende bestuur kan uitoefen. 'n Wanbalans tussen die getalle roofvis en prooivis kan byvoorbeeld herstel word as hengelaars konsentreer op die getalrykste soort. Dit is dus in die langtermyn belang van die hengelaar om hom by daardie hengelregulasies neer te lê wat deel uitmaak van 'n bestuursprogram.

Dit is interessant om daarop te let dat alhoewel Transvaalse hengelaars jaarliks slegs sowat R96,000 vir hengellisensies betaal, hulle totale kapitale uitleg in die beoefening van hulle sport ongeveer R12 miljoen per jaar beloop. Die inkomste verhaal uit die verkoop van lisensies kom ook nie naby die uitgawe van die Afdeling ten opsigte van visserybestuur nie. Verlede jaar het die drie provinsiale visteelstasies 227,000 vingerlinge van 11 vissoorte geproduseer vir loslating in publieke waters en vir verkoop aan eienaars van privaat hengelwaters. Op die Lydenburgse stasie, wat in die teel van forelle spesialiseer, is ook nog 154,000 foreleiers geproduseer.

Opname van die rivier - die eerste stap.

Ongeveer twee-derdes van die vingerlinge wat geteel is, behoort aan warmwater vissoorte. Die ander derde het bestaan uit forelle vir die koue hengelwaters van die oostelike Transvaalse hoëveld. Forelle teel nie in stilstaande water van damme nie, gevolglik moet hierdie waters met gereëlde tussenposes van vis voorsien word. Van die warmwater soorte is baars in die grootste getalle geproduseer, daarna kurpers, geelvisse en karp. Hierdie soorte vis is geteel vir loslating waar hulle nie voorheen voorgekom het nie (soos byvoorbeeld die vestiging van 'n uitheemse soort), om wanbalanse in bestaande visbevolkings te bestry, of vir hervestiging in waters wat aan oormatige hengeldruk blootgestel was of wat weens besoedeling, vloedwater of droogte agteruitgang getoon het.

By die visteelstasie naby Marble Hall word navorsing gedoen op visboerdery as 'n metode om hoë kwaliteit proteïne voedsel te produseer teen 'n lae koste. Indien dit behoorlik ontwerp word kan die gewone plaasdam gebruik word vir voedselproduksie sowel as vir hengelontspanning. Trouens, die kleiner damme pas by uitstek in die veelvoudige gebruiksgedagte van natuurbewaring. Afgesien daarvan dat vis vir voedsel of sport geproduseer word, dien die dam ook as toevlugsoord vir watervoëls, as drinkplek vir 'n verskeidenheid wilde diere, as 'n private plek vir bootvaar, swem en piekniekhou, as 'n wateropgaarplek vir besproeiing en as 'n suiping vir vee.

Dit is dikwels vir hengelaars moeilik om toegang tot hengelwaters te verkry. Daarom moedig die Transvaalse Afdeling Natuurbewaring die bou van plaasdamme aan, sowel as die beskikbaarstelling van private waters aan uitgesoekte buitestaanders, en die ontwikkeling van openbare hengelgebiede. Die Afdeling het onlangs die magtiging verkry om damme op staatsgrond te bou vir publieke ontspanning. Dit verteenwoordig 'n belangrike ontwikkeling wat die toekoms van hengelary as 'n bloeiende sport in die Transvaal behoort te verseker.

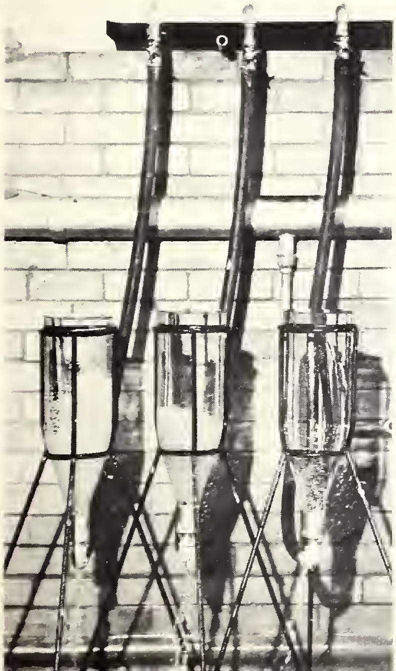
hengel-lisensies

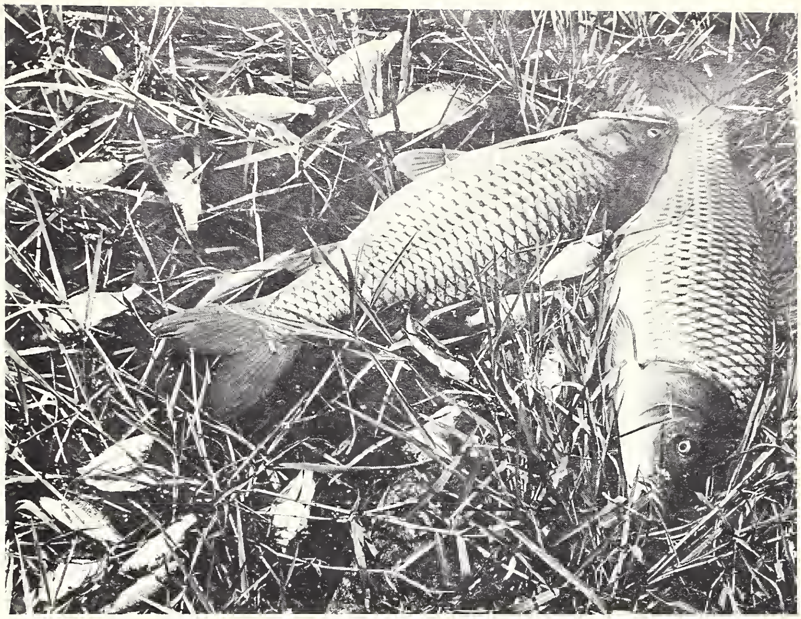
Gedurende die afgelope tien jaar het die aantal gelisensieerde hengelaars in die Transvaal met meer as 30,000 gestyg tot 91,976. Hengel is blykbaar die vorm van ontspanning in ons land wat die vinnigste besig is om te ontwikkel, maar verlede jaar se statistieke wys dat dit amper uitsluitlik die mans se vorm van sport is. Slegs 2.3% van die lisensies is aan vrouens verkoop. Dit is moeilik om te oordeel of die fout lê by die mans wat hulle eggenotes tuis laat, of die eggenotes wat weier om te gaan hengel! Toe nou, dames dink net wat u nie alles misloop nie - heerlike vars lug en bykomende visreukies!

In 1968-69 was slegs 3.9% van alle gelisensieerde hengelaars nie-blankes; 2.4% Bantoes en 1.5% Asiate. In Natal is een uit elke vyf binnelandse hengelaars 'n Indiër en alhoewel hulle dikwels groot visse vang, verrig hulle ook 'n baie nuttige funksie deurdat hulle ook die te groot getalle klein vissies verminder.

Daar is ook groter getalle forelhengelaars in Natal, maar heelparty nuwe forelwaters word tans in die hoëveld van die Oostelike Transvaal ontwikkel en verlede seisoen het alreeds 1,838 (2%) hengelaars forel-lisensies uitgeneem.

Elkeen van hierdie broeiflesse kan ongeveer 20,000 eiers van die kleinbek geelvis bevat. 'n Aanhoudende stroom water kom die fles van onder af binne, en vloei weer bo uit. Gevolglik word die eiers aanhoudend in beweging gehou. Na 'n week broei die eiers uit en die klein vissies word dan oorgeplaas na 'n grootmaaktenk.





Waterbesoedeling maak almal dood - groot en klein.

Tot watter mate visse in proefnemingsdamme groei, word vasgestel deur hulle op 'n elektriese weegskaal te weeg.

vissery-literatuur

Vis Uit die Plaas Dam is 'n handige pamflet vir boere wat belangstel om 'n plaasdam te bou en te voorsien van visse. Daar is illustrasies van sewe populêre hengel-vissoorte en handige wenke word gegee oor hoe om 'n visdam te ontwerp en met welke soorte vis die dam voorsien kan word.

Vir diegene wat belangstel in grootskaalse visboerdery, is daar nog 'n paar honderd kopieë beskikbaar van *Fauna & Flora Nr. 10* van 1959. Hierdie ryklik geïllustreerde boekie gee volledige informasie oor alle aspekte van visboerdery - vanaf die bou van die damme tot die bemarking van die vis.

Bogenoemde publikasies is gratis beskikbaar. Aansoeke moet gerig word aan Die Direkteur van Natuurbewaring, Privaatsak 209, Pretoria.

loskop

veelvuldige gebruik van 'n natuurbron

'n Weinig meer as dertig jaar gelede het die Olifants- en Wilgeriviere ongehinderd vanaf die hoëveld naby Witbank en Bronkhorstspruit, deur die groen deinende heuwels na Groblersdal gevloei. Die egalige vloei van die riviere was slegs onderbreek deur somer-vloede wat van korte duur was. Die kliprantjies het rustig gesluimer onder 'n kleed van bruin en groen struikgewas. Mense het gekom en baanbrekerswerk verrig in hierdie landstreek. Sommige het gebly, maar die meeste het egter verder getrek. Diere-lewe het amper geheel-en-al verdwyn, slegs die taaiste en skaamste diersoorte het oorgebly.

Toe word Loskopdam gebou, met die gepaardgaande standhoudende watervoorraad, besproeiingskanale, mense en landbou-ontwikkeling. Die vloedwaters is mak gemaak, gestoor en gebruik. Die beskawing het oorgeneem en gevolglik sou alle plant- en dierelewe skade ly. Natuurbewaarders het dinge egter anders ingesien en in 1940 is die ruwe terrein om die dam tot 'n natuurreservaat verklaar. Hier was dus nou 'n waarborg van 14,900 morg grond wat gebruik kon word vir die oprig van 'n natuurmonument en 'n studieterrein vir die publiek. Dit was die begin van die Loskopdam-natuurreservaat.

Die idee van veelvuldige gebruik van 'n natuurbron is goed toegepas by Loskop. Besoekers kan vandag 'n wye verskeidenheid buitemuurste aktiwiteite geniet, soos besigtiging van wild, staptoere, hengel, uitkamp, swem en seiljag sport. 'n Plesierboot van 36 voet lank, genaamd die „Impala", onderneem ritte op die dam wat ongeveer een uur duur. Daartydens kan gesien word hoe die wild water drink aan die oewers van die dam, terwyl visarende hoog bo in die lug sweef. Privaatbote kan te water gelaat word vanaf beton-landingsbrûe, en behalwe vir die gedeelte na-aan die damwal, is die res van die wateroppervlakte oopgestel vir die gebruik van booteienaars.

Met 'n uitsig oor die dam, is daar 'n groot en aantreklike ruskamp aangelê. Die akkommodasie wissel vanaf volledig toegeruste familie-hutte tot twee-bed hutte. Die geboue is goed versprei en pragtig omring met grasperke en inheemse skadubome. Terwille van die natuurskoon is al die elektriesekabels ondergronds gelê. Kampeerders en mense met karavane sal ook alle geriewe tot hulle beskikking vind, en saans vul die heerlike geur van braaivleis die omgewing - wat alles bydra tot die heerlike ontspanne atmosfeer wat daar heers.

Groepe skoolkinders besoek ook dikwels Loskop. In die groot jeugkamp is daar 'n gesamentlike eetsaal asook 'n groot ontspanningsaal waar films oor die plant- en dierelewe gewys word en voorligtingspraatjies gelewer word. In die middel van die ontspanningsoord is daar twee tennisbane, 'n swembad en 'n klein restourant. Vir die kleuters is daar swaaie, wip-planke, glybane en selfs 'n vlak swemdammetjie.

Die natuurlike plantegroei in die kamp is 'n aantrekkingskrag vir baie kleurvolle voëls, soos houtkappers, lysters, suikerbekkies en vlieëvangers. Gedurende die somer-maande maak die paradys-vlieëvanger dikwels sy nessie na-aan die hutte, en kan hulle dopgehou word terwyl hulle nesbou en die eiers uitbroei. Aangesien die natuurreservaat so 'n wye verskeidenheid bome en struike bevat, is die voël-populasie ook baie uiteenlopend, en tot soveel as 200 verskillende soorte is al daar aangeteken.

Baie van Loskopdam se besoekers bring hulle eie bootjies en hengelstokke saam. Die vangs is selde uitstaande, maar altyd genotvol. Bloukurper en die rooivinkurper is die gewildste vissoorte, veral vir die hengelaar wat met 'n boot na Lombardsbaai of na die bolope van die dam kan gaan. Van agt tot tien pond karp word soms naby die kampterrein gevang, sowel as die alomteenwoordige baber. Aangesien karp nie goed aanteel in die dam nie, is daar verlede jaar in Februarie 10,000 jong karp in die dam losgelaat deur die Afdeling Natuurbewaring. Terselfdertyd is daar 10,000 grootbekbaars losgelaat om die groot hoeveelheid ghieliemientjies se getalle te verminder. Oor 'n jaar of twee behoort daar dus goeie kanse te wees om baars te vang - vir die hengelaars wat weet waar om hulle lepels in te gooi!

Ou intekenaars op Fauna & Flora besit dalk nog die uitgawe Nr. 11 van 1960 wat geheel-en-al gewei was aan die natuurstudie van die Loskopdam-natuurreservaat. Indien u die natuurreservaat wil besoek, dan kan u gerus die uitgawe saamneem. Daarin word die bou van die dam, die geologie van die omgewing, die plantegroei, die vislewe, reptiele en paddas, voëls en soogdiere beskrywe. By die lys van wild kan elande, kameelperde, buffels en witrenosters nog bygevoeg word - almal diersoorte wat redelik onlangs na die reservaat gebring is.

Al is Loskop oorspronklik as 'n *natuur*reservaat geproklameer, kan dit vandag eerder as 'n *wild*reservaat bekend staan. Voordat die berg-omgewing met 'n veertien-draad heining toegespan is, was daar slegs enkele kleinwild soos

Rooibok-lammetjies in die Loskop reservaat - slegs een maand oud!

grysduikers, steenbokkies, klipspringers en rietbokke - en 'n aansienlike aantal waardevolle rooiribbokke. Die Afdeling Natuurbewaring het egter onverpoosd gewerk om 'n groter verskeidenheid plantetende diere daar gevestig te kry, en tot op hede is daar al 19 spesies in die reservaat, waaronder sulke seldsame soorte as die swartwitpens, oorbietjie en die njala tel.

Besoekers wat gedurende die somermaande in die Afdeling se bus deur die reservaat toer, sal talle pasgebore rooiboklammetjies sien, wat langs die pad speel of in die skadu rus. Hulle kan dalk ook 'n vlugtige blik kry van 'n bobbejaan met 'n heldergeel das aan, of 'n rooiribbok met 'n rooi plastiese kraag om sy nek. Dit is alles deel van eksperimente wat met hierdie gemerkte diere gevoer word. Die bioloë vang sommige diere, merk hulle met nekbande en laat hulle dan weer los, en bestudeer sodoende die patroon van hulle bewegings en optrede. Hierdie navorsing is belangrik vir doeltreffende beheermaatreëls, en die natuurbronne van Loskop sal steeds meer en meer van hierdie soort sorg en aandag ontvang. Sodoende sal kan verseker word dat die publiek steeds meer en uitgebreider gebruik sal kan maak van die natuurbronne by Loskopdam - vir hulle plesier en ontspanning! ☐

Nadat die wild-omheining met staalkabels versterk is, is witrenosters in die reservaat ingebring.

Zebras tel ook onder die 14 wildsoorte wat in die reservaat losgelaat is.

dit kan gedoen word

jag en wildbestuur, deel 1

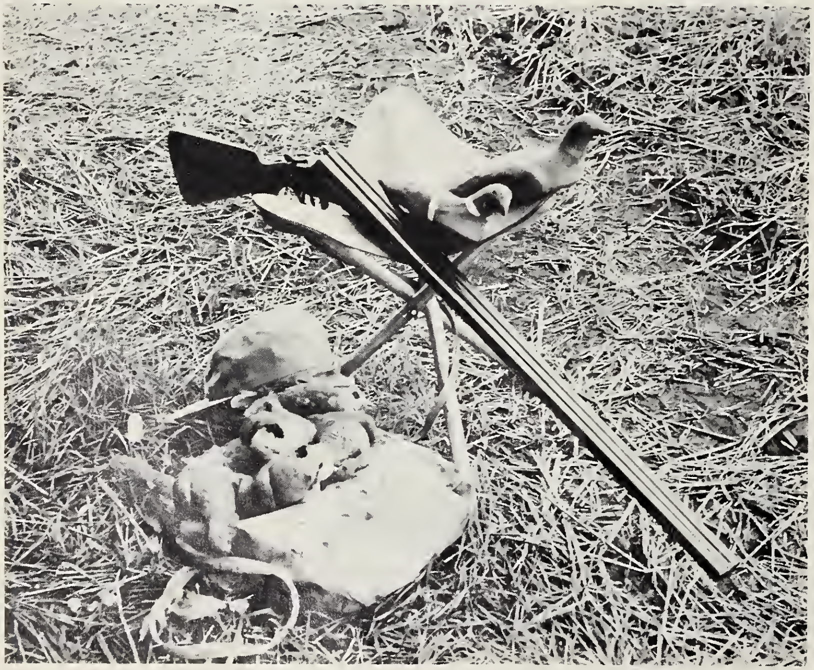
In die afgelope jaar was daar 15 miljoen gelisensieerde jagters en 23 miljoen gelisensieerde hengelaars in die Verenigde State van Amerika. Dit laat die vraag ontstaan hoe dit moontlik is dat die vis- en wildbronne jaggeleentheid kan bied aan so 'n groot aantal mense van 'n hoogs geïndustrialiseerde en digbevolkte land - mense wat baie uit die wildbronne put en oënskynlik niks terugsit nie? Daar is verskeie antwoorde, die aanneemlikste is egter dat hulle *wel* iets terugsit - geld.

As jaglisensie-gelde word 'n bedrag van 168 miljoen dollar deur die 38 miljoen sportmanne inbetaal - ongeveer R3.17 elk. Hierdie geld, en nog meer, word teruggeploeg deur die staatsdepartemente wat verantwoordelik is vir hierdie natuurbronne. Dit word meestal bestee aan wildopnames, navorsing, bestuur, habitatontwikkeling, die aankoop van grond en voorligtingsdienste. Die lisensiegeld word dus in werklikheid gebruik om voorsorg te tref vir die nuwe aanwas van vis en wild - genoeg vir die publiek, wat bereid is om te betaal vir die ontspanning wat jag en hengel bied.

Volgens syfers wat in die „Wildlife Society News" vrygestel is, blyk dit dat daar meestal gejag word in die digbevolkte gedeeltes van Amerika, en nie noodwendig in die wye oop vlaktes soos 'n mens sou verwag nie. Gedurende 1968 het ongeveer 3½ miljoen jagters in die vier industriële state New York, Kalifornië, Michigan en Pennsylvanië gaan jag. In teenstelling hiermee het minder as 400,000 jagters in die vier minder ontwikkelde state van Nevada, New Mexico, Noord Dakota en Wyoming gaan jag. Klaarblyklik is dit nie net wye oop vlaktes wat benodig word vir goeie jaggeleenthede nie.

Die oorvloedigste boksoort in Transvaal is die rooibok, en jaarliks word daar etlike duisende gejag.

Die bosduif, tortelduif en die lemoenduif kan enige tyd van die jaar in Transvaal gejag word.

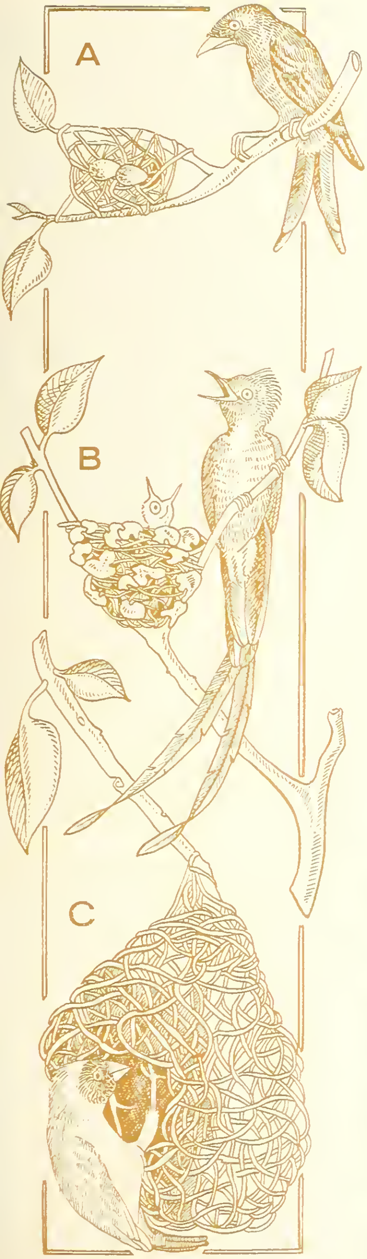


'n Mens sou dink dat daar in 'n land soos Suid-Afrika baie meer wild en beskikbare jagveld sou wees, as in gebiede van vergelykbare grootte in Europa en Noord-Amerika. In werklikheid is die teenoorgestelde die geval. Om 'n enkele geval te noem, in die Amerikaanse staat Oregon is die aantal takbokke wat *elke jaar* gejag word, gelyk aan die helfte van die rooibokbevolking van die Nasionale Krugerwildtuin. Dit is verbasend dat, alhoewel die jagdruk op sommige wildsoorte in noordelike lande, besonder hoog is, die jaarlikse opbrengs nogtans konstant bly, en in baie gevalle is die wildpopulasies selfs besig om te styg.

In Suid-Afrika, is daar in die Transvaal meer grootwild as in die res van die land gesamentlik maar daar is jaarliks slegs 6,000 jagters - en meeste van hulle skiet selde iets groter as 'n tarentaal. Wat sou die rede hiervoor wees, en wat kan daaraan gedoen word? In verdere artikels in die reeks sal op dié vraagstuk ingegaan word en ook probeer word om vas te stel of daar in die toekoms ooit genoeg wild in Transvaal sal wees, om te verseker dat jag-ontspanning nie slegs vir ons, maar ook vir ons kinders beskikbaar sal wees. □

voëls en hulle nessies

vir die jongspan



Alle kinders het seker al op een of ander stadium van hulle lewe gesoek na voëltjies, nessies of eiers - soms self versamel. Maar het julle al ooit gewonder waarom die voëls nou juis hulle eiers in nessies lê - en hoekom alle voëls se nessies nie eners lyk nie?

Nie alle diere kry hulle kleintjies op dieselfde manier nie. Sommige, soos voëls, lê eiers waaruit die kuikens uitbroei, terwyl ander se kleintjies lewendig gebore word (soogdiere). By soogdiere word die eiertjie binne-in die moeder gevorm, en groei daar baie veilig, totdat die kleintjie gebore word. Maar 'n voël moet sorg vir 'n warm, veilige plek waar die eiers kan uitbroei. As sy die eiers sommer net enige plek sou lê, dan sou slange of muishonde sommer baie gou die eiers opvreet - of anders sou die eiers koud word en nooit uitbroei nie. In 'n nessie broei die eiers egter baie lekker warm onder die voël totdat die kleintjies uitkom. Dis ook nie net die wyfie wat die eiers uitbroei nie, soms help die mannetjie ook, soos in die geval van die paradys-vlieëvanger, wat tog te koddig lyk as hy so ernstig op die klein nessie sit en broei, met sy lang stertvere wat so vêr afhang.

Voëls maak baie slim gebruik van materiaal wat handig in hulle nabyheid is, om hulle neste van te bou. Hulle gebruik meestal droë gras, blare en stokkies, maar soms ook groter takke, klippe, modder, grassade, vere, spinnerakke en selfs groen, nog groeiende blare.

Dit is verbasend dat voëls van dieselfde familie dwarsoor die wêreld, hulle neste amper eners bou. Die mikstert-byevanger (A) bou sy nes aan die end van 'n dun takkie, op 'n dwarsmik, sodat die nes soos 'n hangmat tussen die takkies hang. En 'n byevanger in Indië se nes lyk net soos dié van sy naamgenoot in Suid-Afrika.

Die algemeenste vorm van nesbou is die koppie-vormige nes in die mik van 'n regop takkie van 'n boom of 'n struik. Die paradys-vlieëvanger (B) maak so 'n nessie van gras en wortels met hier en daar 'n stukkie mos wat hy van naburige bome kry.

Enige kind wat boomklim tot aan die einde van 'n dun takkie, staan 'n kans om baie vêr en hard te val - maar die kunstig gevlegde nessie van die wewervoël (C) aan die einde van 'n dun takkie, bied 'n baie veilige en warm beskutting vir die kleintjies, waar geen slange maklik kan bykom nie.

In die volgende uitgawe van Fauna & Flora vertel ons van 'n baie interessante groep voëls - die wat hulle neste in gate

Hierdie bokmakierie-kleintjies maak hul bekkies so wyd as moontlik oop, terwyl hulle wag vir kos van die wyfie. Wanneer hulle uitbroei, het hulle geen vere nie, maar binne twee of drie weke is hulle in staat om te vlie. *D. Wolff*

Waterjaar 1970

die wonder van water

deur L. S. Richfield

Water is lewensnoodsaaklik en word gesoek en verbruik deur alle vorms van lewe - elkeen op sy eie manier. Diere drink dit instinktief, sonder enige gedagte aan die eienskappe of oorsprong daarvan. Snaaks genoeg, die mens doen dieselfde tensy hy vakkundig daarby betrokke is, hetsy as boer of ingenieur.

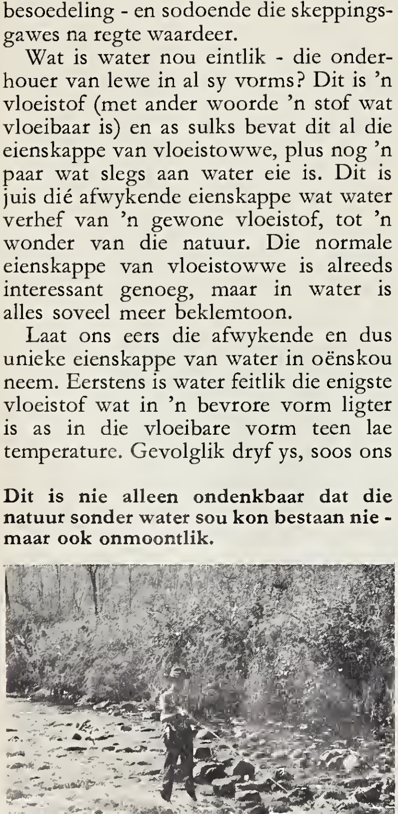
Dán alleen word hy bewus van die wonderlike kwaliteite wat direk onder sy aandag gebring word. En selfs dán nog, as hy geen wetenskaplike opleiding gehad het nie, het hy geen begrip of besef van die wonderlike eienskappe van water nie - eienskappe wat water bykans die wonder van die natuur maak.

Daar is godsdienstige mense wat beweer dat wetenskaplike navorsing inmenging in die werk van die Skepper is. Dit is egter onjuis want juis deur die bestudering van die eienskappe van natuurbronne, kan ons ten volle gebruik maak van hulle, sonder vermorsing en besoedeling - en sodoende die skeppingsgawes na regte waardeer.

Wat is water nou eintlik - die onderhouer van lewe in al sy vorms? Dit is 'n vloeistof (met ander woorde 'n stof wat vloeibaar is) en as sulks bevat dit al die eienskappe van vloeistowwe, plus nog 'n paar wat slegs aan water eie is. Dit is juis dié afwykende eienskappe wat water verhef van 'n gewone vloeistof, tot 'n wonder van die natuur. Die normale eienskappe van vloeistowwe is alreeds interessant genoeg, maar in water is alles soveel meer beklemtoon.

Laat ons eers die afwykende en dus unieke eienskappe van water in oënskou neem. Eerstens is water feitlik die enigste vloeistof wat in 'n bevrore vorm ligter is as in die vloeibare vorm teen lae temperature. Gevolglik dryf ys, soos ons almal weet. Wat ons egter nie besef nie, is dat as water nie dié eienskap besit het nie, die seë en mere in die winter van onder af in 'n soliede massa sou bevries het, en alle waterlewe permanent sou uitsterf.

Dit is nie alleen ondenkbaar dat die natuur sonder water sou kon bestaan nie - maar ook onmoontlik.



Tweedens is die latente warmte van die smeltpunt van ys redelik laag. Gevolglik smelt ys baie maklik in helder sonskyn - en word die lewensvorme in die waterige dieptes maklik vrygestel.

Derdens is die latente warmte van verdamping uitsonderlik hoog - gevolglik word 'n groot hoeveelheid hitte of energie benodig om water in stoom of mis te laat verander. Die logiese gevolgtrekking is dat indien hierdie eienskap sou verdwyn, die eerste warm strale van die son in 'n ommesientjie alle water op die oppervlakte van die aarde in stoom sou laat verander - en sodoende die aarde van al sy vogtigheid sou beroof het. Let maar op dat by hooggeleë plekke, waar die druk van die atmosfeer laag is, nat voorwerpe baie vinnig uitdroog. Netso ook in 'n sterk wind, wanneer die bewegende lug baie energie vrystel.

Hierdie drie uitsonderlike eienskappe van water kan beskou word as Goddelike tussenkoms in die geval van fisiese eienskappe van matérie - om sodoende die produkte van die skepping te beveilig en lewe te gee. Ons kom nou by eienskappe van water, wat tot 'n sekere mate in ander vloeistowwe ook gevind word, maar wat in water meer beklemtoon is.

Dit is algemeen bekend, of behoort altans te wees, dat water 'n integrale deel van die struktuur van alle lewensvorme uitmaak. In die hoë lewensvorme maak dit soveel as 70% van die sel-inhoud uit, terwyl dit in die laer lewensvorme selfs aansienlik meer is. Maar hoeveel mense weet dat water die verbindingsmiddel is in die vorming van kristalle en rotse, en dat sonder die teenwoordigheid van water in dáárdie vorm, alle matérie sou bestaan het uit ontasbare stof?

Menige boer sal praat oor brak-water en die plantvoedingswaarde van reën en tog nie bewus wees van die feit dat suiwer water 'n oplosmiddel is wat soute in die grond en stikstofhoudende produkte in die atmosfeer oplos; en nie net bloot 'n verkoelingsmiddel is nie. In lewende weefsel verskaf water ook 'n vorm van vervoer vir allerlei stowwe. Albei hierdie eienskappe word gebruik met die vertering van voedsel en die uitwerping van afvalprodukte, in die lewensprosesse van diere en plante. Water bring ook soute en plantmateriaal vanaf ontoeganklike bergtoppe na die vlaktes, sodat dit daar benut kan word.

Water dien ook as smeermiddel met 'n lae viskositeit. Met ander woorde, die funksie van water in lewende liggame (en selfs meganiese apparate) is om te verhoed dat skade aangerig word, as gevolg van wrywing, afslyting en oorverhitting - en tog is water nie taai of klewerig nie. Dit sal die betrokke dele nat hou, sonder dat dit verstop raak. Dit is ook 'n katalisator, 'n stof wat slegs deur sy teenwoordigheid 'n chemiese reaksie sal ontketen, wat sodoende 'n nuwe stof uit twee ander stowwe sal vorm - alles sonder dat die water sy eie vorm of eienskappe prysgee.

Water besit ook die eienskap van oppervlakte-spanning. Dit beteken dat die wateroppervlakte dien as 'n vel wat verhinder dat molekules waterdamp, asook ander stowwe vanaf die wateroppervlakte ontsnap. Die eienskap word ook geopenbaar in die haarbuiswerking, waarvolgens water langs fyn buisies beweeg tussen die ruimtes en drade van weefselstof, lewende matérie, grond en klippe. Dit is dan ook die geheim van die eienskap van vervoer, wat water besit.

Water besit ook nog 'n eienskap wat baie belangrik is vir die behoud van lewe op aarde: die water in die atmosfeer help om ons te beskerm teen die skadelike invloed van kosmiese strale, asook die direkte hitte-gloed van die son.

Daar is nog baie ander eienskappe van water wat nie so ooglopend is nie, en wat moeilik is om in eenvoudige taal te beskrywe. Genoeg bewys is egter alreeds gelewer dat water verskeie eienskappe besit wat dit verhef tot 'n ware wonderwerk, en nie net bloot 'n stof om die dors van mens en dier te les nie, of om oeste te laat groei, of 'n reinigingsmiddel nie.

Herdruk van Water 70, Nuusbrief No. 1.

veld brokkies

24 witrenosters

Daar is tans 24 wit- of breëliprenosters in die Loskopdam-natuurreservaat. Enkele jare gelede is die eerstes van dié logge diere reeds na die reservaat oorgeplaas, maar hulle natuurlike aanwas was so gering - slegs drie renosterkalfies het intussen aangekom in die reservaat - dat nog 6 volwasse diere onlangs vanaf Natal na Loskopdam ingevoer is.

Die ses diere vanaf Natal, is aan die suidekant van die dam losgelaat - eers in 'n houkraal, daarna in 'n groter kamp en uiteindelik in die reservaat. Een van die bulle, genaamd Rupert, het bewys dat hy 'n baie steeks renoster kon wees. Hy het eers in dolle vaart vanaf die vervoerwa na die houkraal gestorm. Die volgende oggend egter het hy volstrek geweier om die houkraal te verlaat. Deur 'n vlag aan die einde van 'n lang paal voor die uitgang te waai, het mnr. Stoffel Smit, die veldwagter in bevel, Rupert oorreed om uit te kom. Die wapperende vlag was een te veel vir Rupert; hy het dit bestorm en sodoende uit die houkraal gehardloop. □

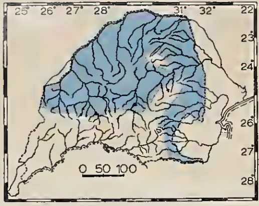
dikkop in gevaar

As dit nie was vir die oplettendheid en flinke optrede van 'n veldwagter by Loskopdam nie, dan sou 'n paar waterdikkoppe seker nooit verlede November hulle twee eiers kon uitgebroei het nie. Die wyfie het haar goed-gekamoefleerde eiers ongelukkig in die middel van 'n gruispad, wat daagliks deur 'n toeristebus gebruik word, gaan lê. Die veldwagter, wat die twee eiers raakgesien het, het 'n klipsperring ter beskerming om die nes gebou. Die wyfie het blykbaar die beskerming waardeer, want sy het direk begin om die eiers uit te broei - in die skroeiende son. Eers het sy aankomende voertuie vermy deur vinnig weg te skarrel met die hoop dat die bestuurder haar nes sou vermy.

Na 'n dag of twee het sy egter genoeg moed bymekaar geskraap, en ewe gelate op haar nes bly sit, terwyl die voertuig 'n skrale twee-, drie voet van haar nes af verby raas. □

bastergemsbok

Die Percy Fyfe-natuurreservaat naby Potgietersrus, is gekies vir die vestiging van 'n kudde bastergemsbokke. Dit lyk asof die voortbestaan van hierdie seldsame boksoort in Suid-Afrika in bedreiging kan wees, omdat daar slegs ongeveer 350 oor is, die meeste daarvan in die Nasionale Krugerwildtuin. Die Afdeling Natuurbewaring het 'n paar bastergemsbokke gevang uit die laaste oorblywende kudde op privaat grond en het hulle na 'n afgekampte gebied op die Percy Fyfe-natuurreservaat oorgeplaas. Daar word vertrou dat hierdie troppie onder algehele beskerming, sodanig sal aanteel dat ander reservate in die toekoms van hulle sal kan kry, om verdere kuddes op te bou. In die volgende uitgawe van Fauna & Flora sal 'n artikel spesiaal handel oor die vangs van die bastergemsbokke - 'n onderneming wat met behulp van 'n helikopter uitgevoer is. □



bloukurper

Een van die gewildste hengelsoorte in Transvaal is die bloukurper (*Tilapia mossambica*). Dit is nie die grootste vis of die taaiste vegter in ons riviere nie, maar enige hengelaar wat deurmekaar raak met 'n skool kurpers sal dié dag altyd onthou. Sy gesin sal dit sekerlik ook waardeer, want daar is nie 'n vis wat lekkerder proe as 'n kurper nie.

Die bloukurper is nog onder baie ander name bekend - rooivinkurper, grootbekkurper, of selfs witkurper. Soms staan hy ook bekend as die driekolkurper, maar bloukurper bly maar die beste naam om te gebruik. Die vis se kleur wissel vanaf grys-wit (wyfies in modderwater) tot vaalgrys (gewone kleur) en selfs swart-blou (mannetjies gedurende broeitydperk). Die algemene vorm en die rooi randjies aan die vinne bly egter kenmerkend.

Die bloukurper is 'n bekbroeier en die eiers word gedurende die vroeë somer in redelike vlak water gelê. Die mannetjie maak die nes deur met sy groot mond 'n vlak holte in die modderige gruis te grawe. Dan soek hy vir hom 'n geskikte wyfie en begin haar aanpor na die nes. Daar lê sy 'n paar honderd eiers wat dan dadelik deur die mannetjie bevrug word. Nou vind daar 'n verbasende gebeurtenis plaas. Die wyfie versamel versigtig al die eiers in haar bek en hou hulle daar totdat die eiers uitbroei, gewoonlik twee tot drie dae. Die kleinvissies bly in die wyfie se bek totdat hulle hul dooiersak opgebruik het - dan waag hulle dit buitetoe om voedsel in die vorm van fyn soöplankton te gaan soek. Wanneer daar egter gevaar dreig of as hulle moeg is, vlug hulle dadelik terug in die bek van hul beskermende ma. As hulle twee tot drie weke oud is, verlaat hulle die wyfie om nou vir hulself te sorg.

Die bloukurper kom slegs voor in die warmwater riviere van die Transvaalse bosveld en laeveld. Ooswaarts word hulle gevind in Mosambiek en in die suide tot in Oos-Kaap. Sy voedsel bestaan hoofsaaklik uit alge en plantmateriaal en hy kan 'n gewig van vyf tot ses pond behaal. Die boukurper kom meestal voor in riviere wat ooswaarts vloei en hy verkies veral vlak water, panne en damme. Die Transvaalse Afdeling Natuurbewaring plaas jaarliks tussen 20,000 en 40,000 klein bloukurpertjies in damme, om die hengelsport te verbeter.

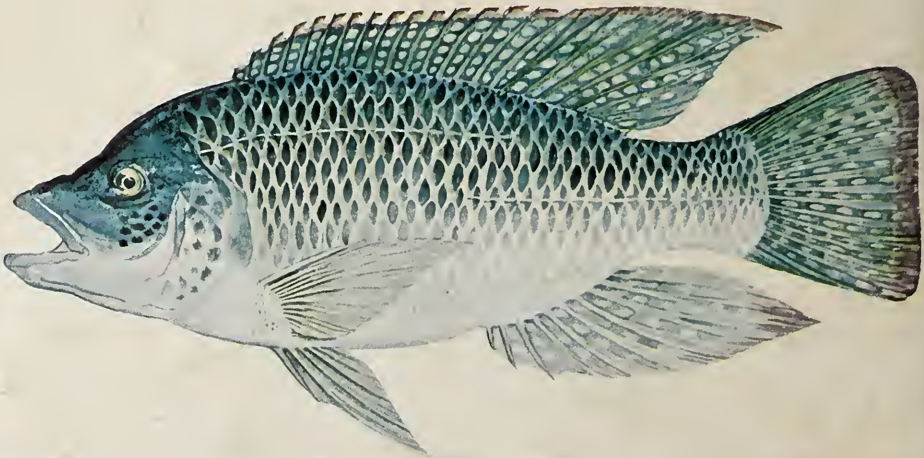
Die beste aas vir bloukurpers is erdwurms, maar mieliepap kan ook gebruik word. In die Transvaal is die maksimum daaglikse vangs per hengelaar vasgestel op 20 kurpers (alle spesies) en die minimum grootte wat gevang mag word is 6 duim (15.2 cms.). ☐

visse van transvaal

Die illustrasies op hierdie bladsy is almal afkomstig uit die boek Visse van Transvaal deur Pieter le Roux en Louis Steyn. Hierdie vis-gids is van hoogstaande gehalte en billike prys en is verkrygbaar vanaf Posbus 5636, Johannesburg. Dit beskrywe, met behulp van pragtige gekleurde illustrasies, 74 verskillende vissoorte wat in Transvaal gevind word, en verdien 'n plekkie op die boekrak van elke hengelaar.

Wyfie

Mannetjie



DEPT. VAN LANDBOU-TEGNIESE DIENSTE
BIBLIOTEEK
NAV. INSTITUUT VIR PLANTKUNDE
BUS BOX 391
18 -5- 1971
PRETORIA
BOTANICAL RESEARCH INSTITUTE
DEPT. OF AGRICULTURAL TECHNICAL SERVICES

fauna & flora

Maart 1971 Nommer 21

fauna & flora

TRANSVAALSE AFDELING
NATUURBEWARING

MAART 1971 NOMMER 21

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VOORBLAD: 'n Gevlekte ooruil, *Bubo africanus*, afgeneem deur W. Massyn.

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Fauna & Flora is 'n publikasie van die Transvaalse Afdeling Natuurbewaring en word van tyd tot tyd in Afrikaans en Engels gepubliseer vanaf die Hoofkantoor van die Afdeling, Kerkstraat, Pretoria.

Intekening is gratis. Skriftelike aansoeke moet gerig word aan: Die Direkteur van Natuurbewaring, Privaatsak 209, Pretoria, Transvaal, Republiek van Suid-Afrika.

Gedruk in die Republiek van Suid-Afrika deur Heer Drukkers (Edms.) Bpk., Pretoria.

waak oor skaars soorte

Selftevredenheid kan as 'n aangename gevoel vertolk word, dit hou egter groot gevaar vir natuurbewaring in. Geen selftevredenheid kan geduld word in die stryd om die behoud van ons plante- en dierelewe nie. Die druk van alle kante, die gevare en eise eindig of verminder nooit nie. Die stryd is nooit gewonne of die bronne veilig nie.

Die hoofoorsaak van traak-my-nieagtigheid is onkunde. Dit, tesame met nie-betrokkenheid bring mee dat die gemiddelde individu totaal onbewus is van die bedreiging van ons fauna en flora. Dit kan nie van 'n persoon verwag word om as kampvegter vir die behoud van 'n basterhartbees of 'n suni op te tree as hy nog nooit so 'n bok gesien het nie! Dis ongelukkig so dat die meerderheid van ons mense nie eers al die wildsoorte in Suid-Afrika se name ken nie, wat praat nog van die uitkenning van al die soorte.

Laat ons 'n lys opstel van die groter wildsoorte met die weglating van die karnivore of vleisetende diere. Ons begin met die meer bekende soorte: rooibok, koedoe, sebra, kameelperd, olifant, witrenoster, springbok, blouwildebees, buffel, grysduiker en steenbok. Dit behels slegs elf soorte en daar moet nog baie ander soorte wees: seekoei, swartrenoster, swartwitpens, gemsbok, blesbok, rietbok, waterbok, klipspringer, vlakvark, rooiduiker, blouduiker, rooiribbok en swartwildebees bring die getal op 24. Ja, natuurlik ook nog die eland, bosbok, oorbietjie en vaalribbok. Ons mag ook nie die bosvark, die basterhartbees, die suni, die grysbok en rooihartbees uitlaat nie, of die bergsebra, die njala, die tropiese grysbok, die bontebok en die bastergemsbok vergeet nie.

Hoeveel van dié 38 soorte sou u kon opnoem? Hoeveel van hulle het u in die afgelope twee of selfs vyf jaar gesien? Het u enige idee hoeveel daar van elke soort in Suid-Afrika of Transvaal oor is? Kan selftevredenheid in wildbewaring toegelaat word?

In hierdie uitgawe van Fauna & Flora deel ons u iets mee van ons pogings om die vermeerdering en verspreiding van bastergemsbokke te bevorder. Die taak is in die beginstadium en ons besef dat dit nog lank sal duur voordat ons sover sal kom om dié soort verder te versprei na ander reservate en boere. Dit sal dus nog geruime tyd duur voordat die publiek in staat sal wees om bastergemsbokke in redelike getalle te besigtig. Dit geld ook vir 'n paar ander soorte in die Transvaal. Die Afdeling Natuurbewaring beywer hom reeds lank vir die teelt en verspreiding van die belangrikste wildsoorte. Dis wel waar dat sommige soorte nog redelik volop voorkom in dele van Suid-Afrika, maar dit regverdig nie enige onverskilligheid teenoor hulle voortbestaan in die Transvaal of elders nie.

U het moontlik ook al gewonder waarom die Afdeling Natuurbewaring op sommige van sy kleiner reservate in die Transvaal nie die publiek vryelik toelaat nie. Die rede hiervoor is dat sulke reservate teelstasies vir skaars wildsoorte is. Die doel van hierdie stasies is om geskikte weidingsgebiede daar te stel waar skaars soorte sonder mededinging gepropageer kan word. In die meeste gevalle was dit nodig om nukleuskuddes van die bedreigde soorte van elders in te voer en daar te vestig. Die vestiging en opbou van gesonde kuddes waaruit sonder vrees weer geneem kan word, is 'n langsame proses. So is daar reeds swartwildebeeste, rooihartbeeste, swartwitpense, basterhartbeeste, bastergemsbokke en ander gevestig.

In sekere gevalle was dit selfs moontlik om as 'n voorsorg teen moontlike rampe 'n tweede kudde op 'n ander plek te vestig. In die geval van swartwildebeeste en rooihartbeeste het dit reeds sover gevorder dat nukleusteelkuddes reeds na boere in goedgekeurde gebiede versprei kon word. Dit is natuurlik die einddoel om al die kuddes so te vergroot dat die skaars soorte weer op boere se plase waar die diere voorheen in die natuur voorgekom het, gevestig kan word en sodoende te sorg dat hulle nie uitsterf nie.

R.N.G.

nuwe natuurbewarings-uitstalling

Die Transvaalse Afdeling Natuurbewaring het 'n permanente uitstalling by sy hoofkantoor in Pretoria geopen. Die beplanning van hierdie projek wat 'n aantal jare geduur het, het nou 'n werklikheid geword. Dis die Afdeling se eerste, maar beslis nie die laaste aanbieding van 'n opvoedkundige vertoning van die fauna en flora van Transvaal nie.

Die uitstalling is deur die administrateur, Sy Edele mnr. S. G. J. van Niekerk op 8 Desember 1970 geopen - net betyds vir die skoolvakansie. Die uitstalling is egter permanent en kan te eniger tyd deur georganiseerde groepe skoolkinders besoek word. Die doel van die verskillende uitstallings is om interessante feite van die natuur onder die aandag van die publiek te bring, en hulle ook bewus te maak van die werksaamhede van die Afdeling Natuurbewaring.

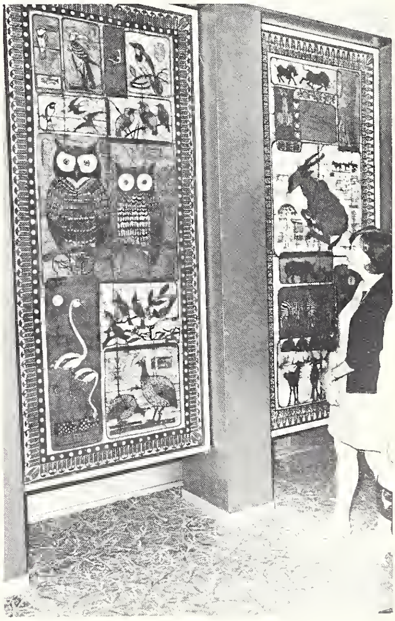
Een van die glanspunte van die uitstalling is 'n realistiese model van die Blyderivierspoort in Oos-Transvaal. Die besoeker druk 'n knoppie en luister dan na 'n bandkommentaar oor die gebied, terwyl liggies aangaan om die interessante punte aan te dui wanneer hulle genoem word. 'n Kaart van Transvaal met soortgelyke kommentaar en illuminasie skets die werksaamhede van natuurbewaring in die provinsie.

'n Aantal van ons groter varswatervisse word in drie groot tenks vertoon. Die belangrike rol wat roofvoëls speel in die beheer van knaagdiergetalle word ook uitgebeeld. Groot batikpanele deur die bekende kunstenaar Louis Steyn stel vyf aspekte van natuurbewaring op 'n verrukkelike wyse voor. Nog 'n dekoratiewe uitstalling is die 20-voet-wye appliekdoek, met ontwerpe uit die natuur, wat deur Jo en Ernest Ullmann uitgevoer is.

By die opening van die uitstalling het die administrateur, mnr. Van Niekerk gesê: „Natuurbewaring is nie meer net 'n kuns nie, dis 'n toegepaste wetenskap. Dit is netso waar dat *elkeen* daartoe kan bydra, en nie slegs die professionele beamptes wat die hoof-verantwoordelikheid moet dra nie. Dit is derhalwe noodsaaklik dat die algemene publiek op hoogte moet bly van natuurbewaringsake, en dat die kennis van wetenskaplikes en die bevindings van navorsers aan soveel mense moontlik oorgedra sal word. Dit vereis harde werk, geld en mannekrag, maar die beloning sal groot wees. Natuurbewaring is nie alleen 'n stryd teen die onvermydelike gevolge van vooruitgang en tegnologie nie, maar dis 'n wedren met die tyd". ☐

'n Model van Blyderivierspoort.

Groot batikpanele deur Louis Steyn.



beleefdheid kos niks

jag en wildbestuur - deel 2 - deur r. n. grafton

Het u al ooit gewonder hoe dit gebeur dat sommige gelukkige mense skynbaar na hartelus kan jag? Hulle het blykbaar dwarsdeur die land die regte kontakte en ken talle gawe boere. U skryf dit moontlik toe aan geluk, geld en baie vrye tyd. Maar wat van die talle jagters wat $5\frac{1}{2}$ dag per week werk, net soveel soos u en ek verdien en glad nie die betekenis van die woord geluk ken nie. Hoe verkry *hulle* dan soveel jaggeleenthede?

Dit is duidelik dat daar heelwat faktore moet wees wat jagmoontlikhede bepaal. Natuurlik help dit as u 'n vriend het met 'n plaas, waarop daar volop wild is. Tog kan dit gebeur dat baie sulke persone nie op die plaas toegelaat word nie, terwyl vreemdelinge welkom is om te kan skiet.

'n Paar weke gelede het ek juis met iemand gesels om te verneem of daar nie êrens 'n kans is om duikers te skiet nie. Hy vertel my toe dat hy 'n goeie kennis gehad het, waar hy die vorige jaar gejag het, maar dat die boer vanjaar te kenne gegee het dat hy hierdie seisoen geen duikers sal laat skiet nie. Toe hy my die besonderhede van die vorige jaar se jag vertel het, was ek nie verbaas nie. Die jagter het 'n vriend saamgeneem; hulle het geen duikers gekry nie, maar wel 'n steenbok. Natuurlik was daar geen vergunning vir die vriend nie en nog minder vir steenbokke, want daar was maar net vier van hulle op die plaas.

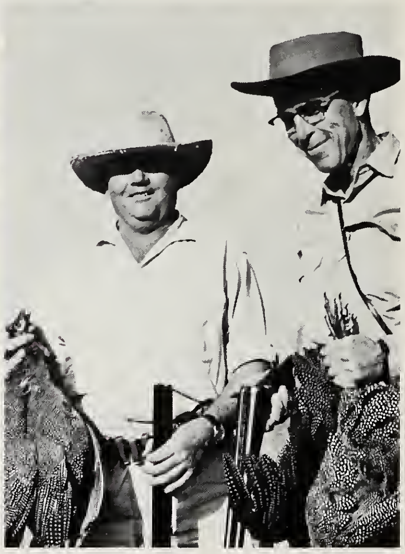
Die twee het hulle dus mooi uit hulle nuutverkreë jagveld geskiet. As een of twee persone uitgenooi word, sluit dit nie hulle vriende in nie, en mens moet darem taamlik kleurblind wees om nie te kan onderskei tussen 'n gewone duiker en 'n steenbok nie. U mag sê, dat die boer duidelik moes gestipuleer het, „Geen vriende en geen steenbokke nie", maar dit moet in gedagte gehou word dat hy die gasheer is en dat dit van gaste kan verwag word om lig te loop. Dit is verstandig om altyd vas te stel wat mag en wat nie mag gedoen word nie; op dié manier voorkom u misverstand en onaangenaamheid.

Daar is talle dinge wat toelaatbaar en nie toelaatbaar is nie, maar op slot van sake kom dit neer op gesonde verstand en welvoeglikheid. Dis vanselfsprekend dat u nie 'n hek oop laat nie, brand stig in die veld nie, kennisgewingborde stukkend skiet nie of koeëls oor die plaashuis laat fluit nie. Nog minder trek u mielies uit om 'n verskansing te maak, of beskadig die enkele wilgers langs die rivieroewer. Ek het eenmaal 'n kennisgewing gesien: „Ons geniet ook die visvangs, neem asseblief jou rommel saam met jou." Ek neem aan dat dit ook van toepassing is op patroondosies, geplukte vere en piekniekreste.

Dis wonderlik hoe 'n patroondoppie jou kan verraai. Die leë dosie langs jou motor se spoor is bewys daarvan dat jy te lui is om te loop, en eintlik maar 'n onwettige jagter is. 'n Leë triple-A tussen

Jag verbode, bly weg. Welwillendheid van die kant van jagters kan baie daartoe bydra om hierdie soort kennisgewings oorbodig te maak.

Beleefdheid en bedagsaamheid beteken gelukkige jagters.



die No. 8's beteken dat daar nie *net* bosduiwe geskiet is nie. In die V.S.A. is daar baie jagters wat op een plek bly in die hoop dat wild in hulle rigting mag vlug, as ander skiet. Daar word nie naastenby so druk in die Transvaal geskiet nie; hoe minder skote u dus afskiet, hoe minder senuagtig word die wild. So bevoordeel u uself en die volgende jagter.

Afgesien van wat u nie mag doen nie, is daar sekere dinge wat u beslis in aanmerking moet neem. Vanselfsprekend moet u 'n bedankingsbrief skrywe òf u nou gelukkig was of nie. Dis ook belangrik hoe u die boer benader as u om verlof kom vra. As u voor hom kom, geweer in die hand en 'n vol patroonband om u lyf, sal u baie gou netso weer verdwyn. Dis baie verstandiger om tevore, selfs voor die opening van die seisoen 'n welwillendheidsbesoek af te lê.

Soms is dit van pas om aan te bied om te betaal vir die jag. U kan ten minste aanbied om 'n deel van wat geskiet is, af te gee. Dit beteken dat u by u vertrek weer by die huis langs moet kom en dit is beslis die mees beleefde ding wat u kan doen. U kan die boer ook nooi om saam met u op jag te gaan; hy mag dit geniet, maar dit gee hom ook die geleentheid om te sien of jy jou skiet ken.

Verlede seisoen het ek die voorreg gehad om heerlik duiwe te skiet. Dis interessant dat daar die vorige jaar nie 'n enkele duif op daardie plaas te sien was nie. Gedurende die somer het 'n maat van my kafferkoring- en mannasaad gekoop en die boer omgepraat om dit op 'n halfakkerstrook langs 'n ou land te plant. Teen April het die saad begin ryp word en ons drie het heerlik geskiet op die duiwe wat kom vreet het. Dit is darem nie altyd moontlik om so iets konstruktiefs te kan doen om te vergoed vir wat u inoes gedurende die oop seisoen op iemand anders se grond nie. U kan natuurlik help om strikke op te neem, om vas te stel hoe die tarentale broei of wat die getalle van die wildsoorte is, en hoe hulle versprei is.

Nou en dan mag u 'n eienaar teëkom wat nie die jagregulasies ken nie en goedgunstiglik sê, „Skiet wat jy wil". Dis 'n versoeking wat teengestaan moet word want as u matig oes sal u moontlik elke jaar daar kan jag. Mens kan maar net hoop dat daardie boere wat geen of min jag op hulle plase toelaat, meer toeskietlik sal word. As daar voldoende wild is, is dit glad nie skadelik om hulle jaarliks effens te verminder nie. Dit is waar dat daar jagters is wat nie 'n tweede kans verdien nie, maar baie ander doen nooit iets verkeerd nie. Dan is daar tussenin, dié met min ondervinding, die beginners en jongkêrels. Miskien het hulle net 'n geleentheid nodig om te leer; hulle moet volledige instruksies ontvang en moontlik hier en daar vriendelike raad. ☐

Maak asb. die hek toe. Hierdie soort uithangborde behoort onnodig te wees; laat die hek altyd soos u dit gevind het.

Oorlewendes sal vervolg word; die waarskuwing is lughartig maar die betekenis is duidelik.

percy fyfe - natuurreservaat

Die plaas Lunsklip, 20 myl noord van Potgietersrus het in 1912 ellendig gelyk. Die veld was gruwelik oorbewei met gapende erosieslote orals en feitlik alle natuurlewe het verdwyn. Die 28-jarige Percy Fyfe was toe nog 'n teësinnige bankkassier met 'n droomideaal om eendag 'n plaas te besit. Toe Lunsklip te koop aangebied word, het hy dit dadelik gekoop en die harde taak van herwinning aangepak. Hy het draad gespan, damme gebou, grondbewaringsmaatreëls getref en die plantegroei en wild beskerm. Veertig jaar later toe daar reeds 'n groot trop blesbokke gevestig was, het hy die plaas aan die Transvaalse Administrasie oorhandig om as natuurreservaat te gebruik.

Kinders was altyd welkome besoekers by Lunsklip en toe dit 'n natuurreservaat geword het, het mnr. Fyfe slegs een begeerte uitgespreek, naamlik dat georganiseerde groepe jong mense toegelaat moet word om daar uit te kamp. Die plaas is in 1954 as natuurreservaat verklaar en toe het die Afdeling Natuurbewaring dadelik aan die werk gespring om draad vir wildkampe te span, paaie te bou en drinkplekke te voorsien. 'n Kampeerterrein is skoongemaak, water is aangelê en 'n kombuis en badgeriewe is gebou. Jeuggroepe, soos die Voortrekkerbeweging, besoek die reservaat gereeld en geniet die buitelewe en leer terselfdertyd iets van die natuur.

Percy Poynton Fyfe in sy sewentiger jare.

In September 1933 het mnr. Percy Fyfe 6 blesbokke uit die Oranje Vrystaat verkry en hulle op sy plaas losgelaat. Teen die middel van die vyftiger jare het die getal tot 400 vermeerder en vandag is daar meer as 600. Elke jaar word sowat 100 gevang vir hervestiging op ander reservate of wildplase. Die Percy Fyfe-natuurreservaat beslaan 3432 morg en is in 'n aantal wildkampe verdeel. In die loop van die jare is baie nuwe wildsoorte bygevoeg, sodat daar nou meer of min 1000 diere in die reservaat is. Die belangrikste hiervan is 16 bastergemsbokke wat 500 morg bewei (kyk bl. 6). Die skaars basterhartbees is ook ingevoer en het vinnig tot 54 gedurende die laaste paar seisoene aangewas. Klein troppies van ander wildsoorte soos die swartwitpens, swartwildebees, koedoe en sebra is ook hier hervestig.

Basterhartbeeste, een van die skaarste wildsoorte, is deur die Afdeling Natuurbewaring ingevoer.

Die hoofkwartier van die wildvangspan van die Afdeling Natuurbewaring is hier, sowel as kwarantynhokke vir diere wat pas gevang is. Die publiek het nie tot die reservaat toegang nie omdat dit hoofsaaklik 'n teelstasie vir skaarssoorte wild is. Sy groot betekenis lê daarin dat dit uiteindelik 'n voorradebron sal wees van waaruit ander gebiede voorsien sal word. Toe mnr. Fyfe die plaas aan die volk van Transvaal geskenk het, kon hy sekerlik nooit gedroom het dat swartwitpense, basterhartbeeste en bastergemsbokke eendag die veld wat hy so moeisaam herwin het, sou bewei nie. Die geskenk van Oom Percy is uniek daarin dat hy dit lank voor sy dood reeds gedoen het. Hy het nog 'n hele aantal jare op die plaas bly woon tot hy in 1965 op 81-jarige ouderdom oorlede is. In 1969 is 'n brons gedenkplaat op 'n granietblok, in die skaduwee van 'n groot vyeboom aangebring ter gedagtenis aan 'n versiende en gulhartige natuurbewaarder. □

ongewone speelmaats

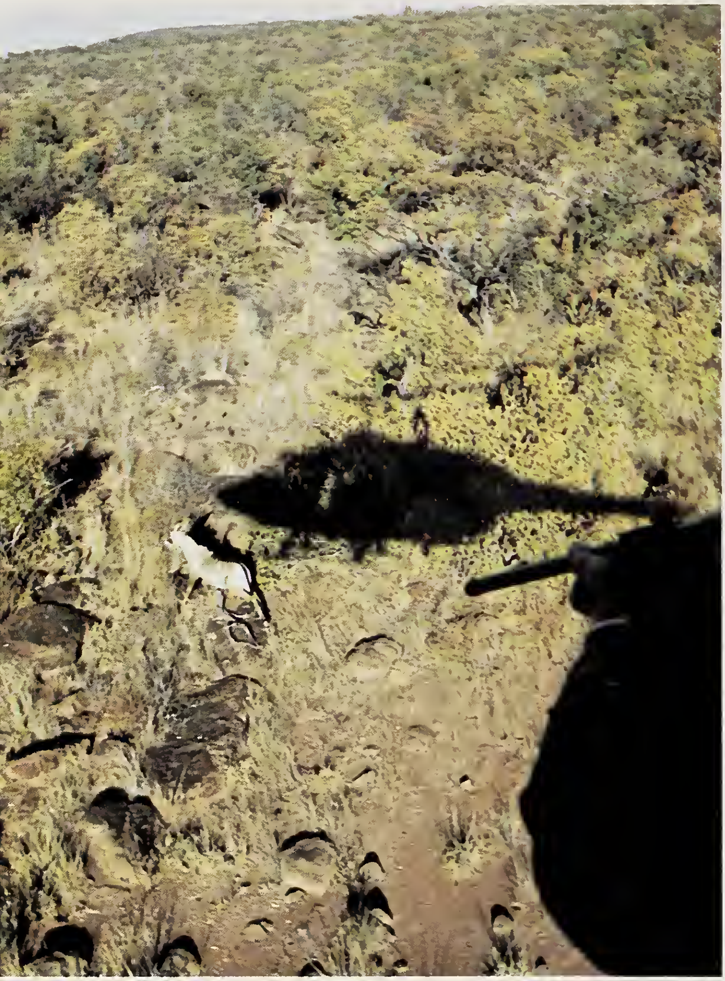
'n Trop bobbejane kan wel, as hulle natuurlike kos skaars word, van die berge afkom, of uit die bosse te voorskyn tree om die boer se gesaaides by te dam. Om hierdie rede is die bobbejaan tot 'n probleemdier verklaar en mag onbeperk en sonder lisensie gejag word.

Die Afdeling Natuurbewaring het intensiewe navorsing gedoen om 'n praktiese en genadige metode te probeer vind om hulle getalle onder beheer te hou. Die eerste vereiste was natuurlik 'n deeglike kennis van hulle gewoontes en ekologie. Dr. Graham Saayman van die Universiteit van Pretoria, het met navorsers van die Afdeling saamgewerk aan 'n studie van die sosiale gedrag van bobbejane. Terwyl dr. Saayman 'n groep bobbejane in die Nasionale Krugerwildtuin dopgehou het, het hy een van sy interessantste waarnemings gedoen. In die uitgawe van Februarie 1970 van die tydskrif *Animals* skrywe hy: „'n Volwasse jakkals het skielik uit die bos gedraf gekom en op sy gemak deur die trop beweeg. Die bobbejane het toegelaat dat hy heen en weer tussen hulle deur draf. Die jakkals het tot op 'n paar tree genader, en slegs weinig belangstelling van die bobbejane uitgelok. Groot was ons verbasing toe die jakkals naby 'n klompie van die jongeres gaan staan, sy ore plat trek en met hangende stert hulle begin bekruip. 'n Paar van hulle het tekens van vrees getoon; hulle het agteruit beweeg, en twee van hulle het omgedraai en 'n paar tree weggehardloop.

„Eers toé het ons opgemerk dat daar in werklikheid drie jakkalse was. Al drie was besig met die bekruipery. Telkens wanneer een naby genoeg kom, val hy plat op sy voorpote met die agterlyf en stert omhoog en begin dan stertswaaiend met die bobbejaan te stoei. Die fisieke aanraking was vinnig en moeilik om presies waar te neem. In die reël het die bobbejaan dan 'n endjie gehardloop met die jakkals agterna. Daar was egter geen sprake daarvan dat die bobbejaan werklik wou weghardloop nie; hy het ook nie geskreeu soos wanneer hy bang is nie. Dwarsdeur die ontmoeting was dit duidelik dat die jakkalse 'n spelery aan die gang gesit het." ☐

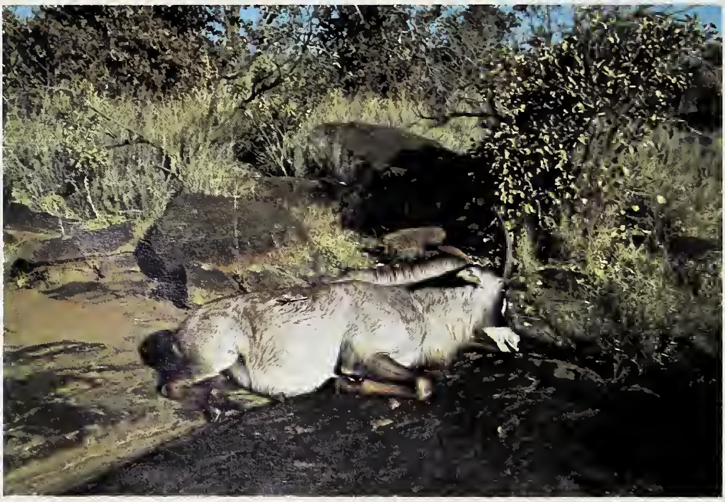
basterg

'n bedreig



Terwyl die helikopter en sy skaduwee op die vlugtende bastergemsbok afpeil word 'n dwelmmiddel uit 'n pylgeweer afgevuur.

Met die pyl in sy sy, sak die bastergemsbok magteloos op sy knieë.



Die bastergemsbok is moontlik die skaarste van die 26 wildsboksoorte in Suid-Afrika. Daar is waarskynlik nie meer as 350 van hulle nie, en almal kom in Noord- en Oos-Transvaal voor. Ten noorde van ons is hulle nog redelik volop, maar die Transvaal is hulle suidelike gebiedsgrens, en dis hier waar hulle voortbestaan bedreig word.

Tot onlangs was slegs die min of meer 270 bastergemsbokke van die Nasionale Krugerwildtuin veilig. Die origе klompie was yl versprei in die droë en rotsagtige Waterberg naby Vaalwater. Dis byna 'n wonderwerk dat hulle in hierdie onherbergsame gebied behoue gebly het. Gelukkig beywer die boere hulle daar naarstiglik om hierdie kosbare wildsoort te beskerm. Omdat hulle so rond beweeg van plaas tot plaas is dit baie moeilik om totale beskerming toe te pas. Daar word egter nog kalwers in die kuddes gebore maar die getalle bly maar konstant laag.

Gedurende die winters van 1969 en 1970 het hierdie boere goedgunstiglik die Transvaalse Afdeling Natuurbewaring toegelaat om van die bastergemsbokke te vang ten einde 'n nuwe kudde in Transvaal te vestig.

In die Percy Fyfe-natuurreservaat naby Potgietersrus, waar die habitat ooreenkom met dié van Vaalwater, is 'n kamp van 500 morg voorberei. Die vang van hierdie diere was die moeilikste wat die Afdeling nog uitgevoer het, en is deur maandelange beplanning vooraf gegaan.

'n Fyn kuns

Die bastergemsbokke was in klein kuddes oor 'n steil en rotsagtige gebied versprei. Daar is min paaie en die bosse beperk die sig tot ongeveer 50 tree; die enigste manier om die diere te vind, was per helikopter. Hulle word dan van uit die lug met 'n dwelmpyl geskiet; dit was wel niks nuuts nie, maar dit is nog nooit tevore in so 'n ruwe gebied probeer nie. Nadat die bedwelmde dier op sy knieë gebring is, volg die moeilikste deel, nl. om hom na die basiskamp te vervoer waar die vervoerkaste gereed staan. Dit word gedoen deur die dier op 'n houtplatform te plaas wat onder die helikopter hang.

msbok
wildsoort

Nadat die dier getref is moet daar 'n landingsplek gevind word om die vangspan en hul apparaat af te laai. Soms was dit noodsaaklik vir 'n veldwagter om van die helikopter af te spring en 'n plek oop te kap.

Dis 'n fyn kuns om teen 'n steil helling, tussen rotsblokke en met slegs 12 duim speling aan beide kante vir die skroef, te land. Tog is die kosbare diere een vir een uit die digte bosse gelig en vyf tot tien myl ver na die vragmotors wat gereed gestaan het, vervoer.

'n Nuwe tuiste

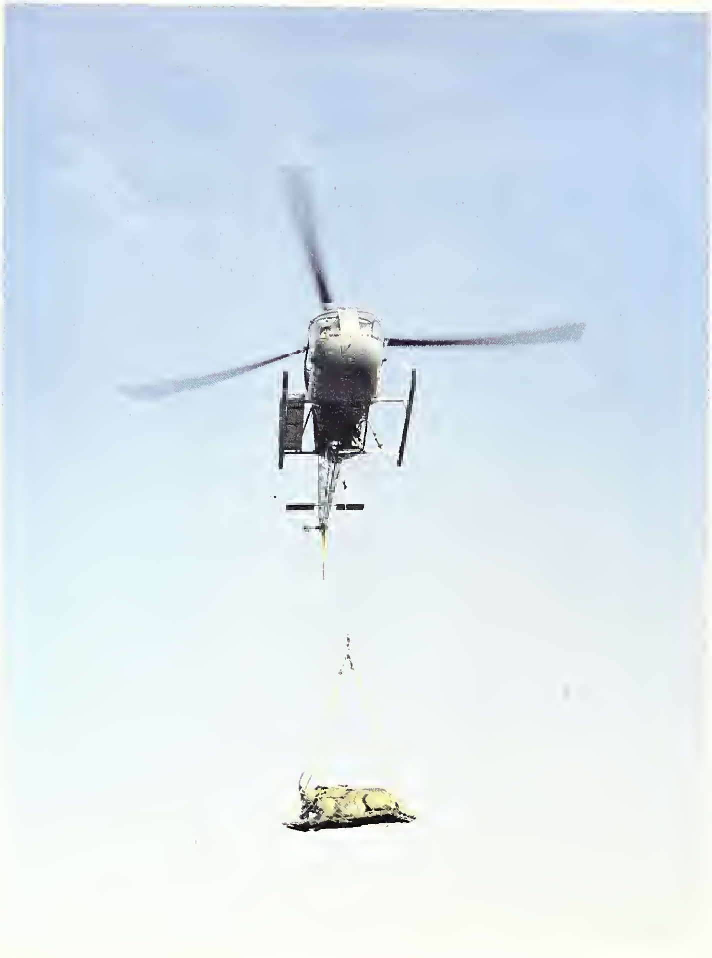
Agt gemsbokkoeie en twee bulle is sodoende in die Percy Fyfe-natuurreservaat losgelaat. Hulle het gou daar aangepas. Sommige van die koeie was reeds dragtig toe hulle gevang is; vier kalwers het aangekom en nog meer word verwag. Bastergemsbokke kalf enige tyd van die jaar en hulle steek die kalfies vir sowat ses weke weg.

Dié gewoonte en ook die los verhouding tussen moeder en kalf, is moontlik die rede waarom bastergemsbokke in kompetisie met ander wildsoorte minder gunstig vaar.

Onder die antilope weeg slegs die eland meer as die bastergemsbok. Volwasse bulle weeg van 600 tot 700 pond en die koeie van 500 tot 550 pond. Die bulle kan nogal aggressief wees en kwaai veg om hulle gebied en koei-trop teen ander bulle te beskerm, maar in die reël is hulle sku vir mense. Om nie opgemerk te word nie, staan hulle doodstil of gaan lê in hoë gras.

Die periode van dragtigheid is ongeveer nege maande. 'n Kudde bestaan gewoonlik uit een groot bul en tot 'n dosyn volwasse koeie en hulle eenjarige kalwers.

Hopelik sal die kudde in die Percy Fyfe-natuurreservaat, in die afwesigheid van roofdiere en ander mededingende soorte, vermeerder en moontlik elke drie jaar verdubbel. Ander provinsiale reservate sal mettertyd ook van bastergemsbokke voorsien word, sodat hierdie sku maar trotse diere uiteindelik van die lys van bedreigde diere kan verdwyn.



Die kosbare vrag word per helikopter van die vangplek na die kampbasis vervoer.

Veilig in 'n krat, begin die bastergemsbok se reis na sy nuwe tuiste in die Percy Fyfe-natuurreservaat.

Die bedwelmde bok word met 'n net bedek vir sy lugreis.

Daar is slegs nog sowat 350 bastergemsbokke in Suid-Afrika.

Die eerste bastergemsbokkalwers wat in 'n Transvaalse provinsiale natuurreservaat gebore is; hulle is twee en drie maande oud.

louis van bergen

deur r. bigalke

Louis van Bergen is op 24 Januarie 1892 in Bloemhof gebore. Kort voor die Tweede Vryheidsoorlog het sy vader wat 'n onderwyser was en ook sendingwerk gedoen het, besluit om na Pretoria te verhuis. Die reis moes nog per ossewa geskied. Swaar tye het daar op die gesin gewag as gevolg van die vroeë dood van die vader en die uitbreek van die oorlog in 1899. Die jong Louis het begin om voëls te vang en aan voëlliefhebbers te verkoop om sy moeder so te probeer ondersteun. Destyds was dit volkome gewettig en hy het geen moeite ondervind om kopers te kry nie; die kleurrykste soorte is deur die kopers na Europa en elders uitgevoer.

Sy eerste betrekking was in die kantoor van die prokureur-generaal, maar 'n vriend het hom oorreed om in diens van die Zuid-Afrikaansche Spoorwegmaatschappij te tree. Later het hy die sakewêreld betree en 'n florerende saak in Pretoria opgebou.

Die geelbek-neushoringvoël wat dikwels in Louis van Bergen se films vertoon is.

CHRIS PISART

Sy intense belangstelling in die voëls van Transvaal het sy oorsprong gehad in sy jeugbedrywigheid as voëlvanger. Al gaande het hy sodoende 'n uitgebreide kennis van die voëls van die laeveld opgedoen. Hy kon besonder goed sien en het dikwels 'n klein voëltjie in 'n bos 'n honderd tree verder opgemerk en uitgeken, lank voordat ek dit gewaar het. Daar is beslis min voëlliefhebbers wat 'n groter eerstehandse kennis van die verspreiding, die fluite, die broei- en ander gewoontes van die Transvaalse voëls gehad het as Louis van Bergen.

Hy was 'n joviale en energieke metgesel in die bosveld en sy byna seunsagtige geesdrif het aansteeklik gewerk. Hy was op sy gelukkigste in die veld en sy groot motor het altyd halfklaar opgepak gestaan, sodat hy met die minste versuim kon wegkom. Elke uitstappie was vir hom 'n avontuur; hy kon opgewonde raak soos 'n skoolseun wat die eerste keer in die bosveld kom.

Sy belangstelling in die laeveld was beslis nie tot voëls beperk nie; die soogdiere en die flora het hom ook geïnteresseer, maar sy eerste liefde het voëls gebly.

Dit was onvermydelik dat hy een of ander tyd sou begin fotografeer om 'n rekord op te bou van sy veelvuldige uitstappies. Sy eerste poging was 'n swart-en-wit film wat hy reeds in 1923 gemaak het toe hy per motor deur die teenswoordige Nasionale Krugerwildtuin gery het. Dit is hoogs waarskynlik die eerste film wat in hierdie reservaat gemaak is.

Langsamerhand het hy duurder en meer doeltreffende toestelle aangeskaf en hom op kleurfilms toegelê; sy voëlfilms is ongetwyfeld van die beste van dié soort. Toe bandopnames moontlik geword het, het hy begin om opnames te maak van die fluite van voëls en geluide van ander veldbewoners. Hy moes natuurlik dou-voor-dag uitgaan om die helder, deurdringende roep van byvoorbeeld bospatryse en bosveldfisante wat die koms van die dag aankondig, op te neem.

Hy was een van die eerstes om lewenslange lid van die Nasionale Krugerwildtuin te word en was ook honorêre veldwagter. Hy het baie jare lank die Oostelike Provinsie op die Suid-Afrikaanse Vereniging vir die Beskerming en Behoud van Natuurlewe, verteenwoordig.

DICK WOLFF

Louis van Bergen met 'n ietermago.

As blyk van sy groot liefde vir en belangstelling in die laeveld het hy in sy testament eenduisend rand beskikbaar gestel vir 'n hut in die Blyderivierpoort, waar die eerste ruskamp nou gebou word. Toe die Provinsiale Uitvoerende Komitee dit in ontvangs geneem het, het hulle besluit om 'n gedenkplaat in daardie hut aan te bring.

Louis het in die loop van jare al die belangrike nasionale parke en natuurreservate in suidelike Afrika, insluitende Etosha en Caprivizipfel besoek en orals films gemaak. Hierdie films is dikwels in al vier provinsies vertoon ten bate van natuurbewaring.

Hy is op 8 Desember 1966 oorlede, slegs enkele weke voor sy vyf-en-sewentigste verjaarsdag. Sy gedagtenis sal bly lewe in die harte van alle bosveldliefhebbers.

los die stomp!

deur g. l. lombard

„Lekker ou kampvuur, kom ons sleep daardie groot stomp nader." So vreet tienduisende kampvure jaarliks honderde-duisende stompe op. Saam met die stomp het 'n stukkie beskutting uit die natuur verdwyn; 'n klein wêreldjie is vernietig. 'n Klein wêreldjie wat die eerste skakel vorm in die voedselketting waarvan elkeen van ons later afhanklik mag wees.

Terwyl hy gegroei het, het die boom die energie van die son omskep tot houtvesels en noudat die stomp daar lê en ontbind, word dié energie in die vorm van humus aan die aarde, wat die boom ook gevoed het, teruggegee. Die stomp help vogtigheid in die grond hou en saadjies van gras, struike en selfs ander bome spoel of waai teen die stomp vas en ontkiem in die beskutte nis wat deur die stomp gevorm word. Selfs dooie blare en ander plantmateriaal word deur die stomp vasgehou, waar dit vog kan inhou en later kan ontbind om humus te vorm.

Die eerste lewende wesens wat op die stomp teer, is bakterieë maar veral swamme. Hulle vorm dus die eerste skakels in die voedselketting. Die swamdrade of *hyphae* vorm 'n netwerk van fyn draadjies wat in en om die houtselle groei en ensieme afskei wat lignin en sellulose verteer. Die hout word sag en disintegreer tot humus wat die grondbodem weer verryk.

'n Verskeidenheid insekte, soos termiete en houtboorders, kan ook direk van die hout lewe. Dit word selfs beweer dat die eensellige diertjies of protozoa wat in die dermkanaal van veral die grasdraertermiete voorkom, in ruil vir hulle beskutte woonplek help om sellulose in die gras wat die termiete vreet, te verteer. By houtvretende kewers word die vesels hoofsaaklik afgebreek deur bakteriese fermentasie wat in hulle dermkanaal plaasvind.

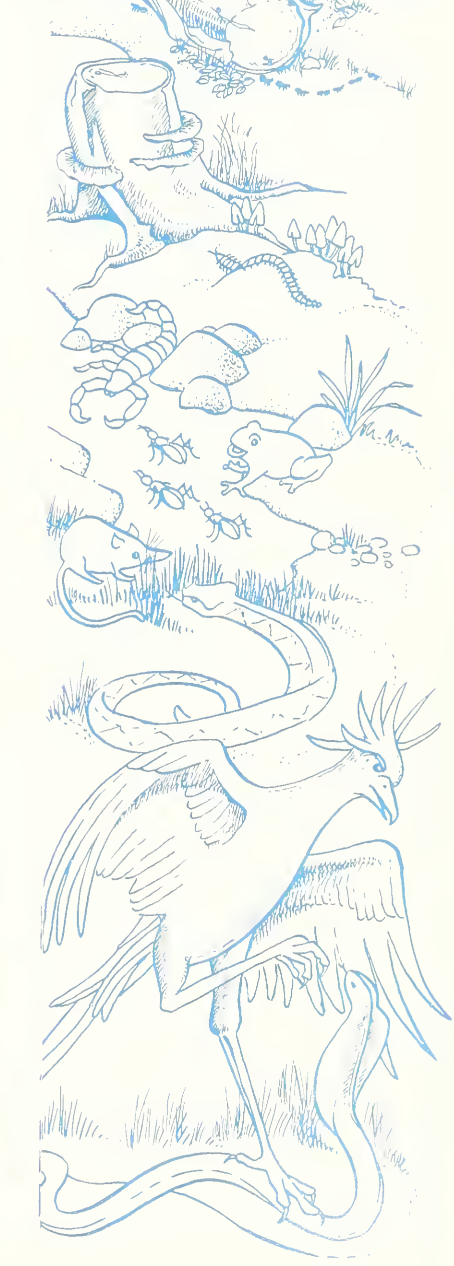
Die termiete, kewers en hulle larwes vorm nou weer op hulle beurt 'n verdere skakel in die voedselketting deurdat hulle die voedsel van ander diere vorm. Daar is selfs ander goggas soos skerpioene, oorkruipers, spinnekoppe en selfs groter kewers, wat hierdie diertjies vreet. Hulle vorm egter hoofsaaklik die prooi van paddas, akkedisse, voëls en klein soogdiere soos skeerbekmuise, muishonde en selfs die maanhaarjakkals. Slange vreet weer die paddas, akkedisse en klein soogdiere. Roofvoëls en jakkalse vorm die top van die ketting, terwyl hulle verder hulle belangrike funksie vervul in die kontrole van skadelike knaagdiere en dassies.

'n Tweede voedselketting bestaan uit die plantvreters wat die gras of ander gewasse vreet, wat in die beskutting van die stomp kon groei. Vrugte of saad van plante wat by die stomp opkom, vorm ook voedsel vir voëls en knaagdiere. Die mens en die groter roofdiere vorm dan die laaste skakel deur die plant- en saadeters te eet. Dwarsdeur die hele ketting word die mis van elke diertjie, hoe klein ookal, versprei en teruggegee aan die bodem.

Let net op in die veld waar daar stompe lê, hoe die gras en ander plante rondom die stomp groei en dink daaraan hoe die versteuring van hierdie klein wêreldjie uiteindelik die hele omgewing nadelig kan beïnvloed. Die natuurlike beskerming van die bodem deur verrottende stompe word selfs doelbewus deur die mens toegepas by grondherwinning of bekamping van erosie. Takke word oor die grond oppervlakte gelê om verspoeling tee te werk en beskerming te bied vir saadjies om op te kom.

As u self 'n stomp of 'n klip omkeer om te sien wat daaronder is en dit nie terugsit soos dit gelê het nie, kan dit soms jare neem voordat die „mikroklimaat" onder dié stomp of klip weer opgebou het om dieselfde volledige „wêreldjie" met sy hele patroon van lewensvorms te bereik.

Vandag word voldoende brandhout vir ons behoeftes in ons land geproduseer en dié plantasies neem voortdurend toe. Deur brandhout te koop vir ons uitstappies kan ons nog lekker om die kampvuur sit en 'n voller natuur geniet as wat ons sou as al die stompe opgebrand was en net die kaal veld oorgebly het. □



veld brokkies

protes-opmars

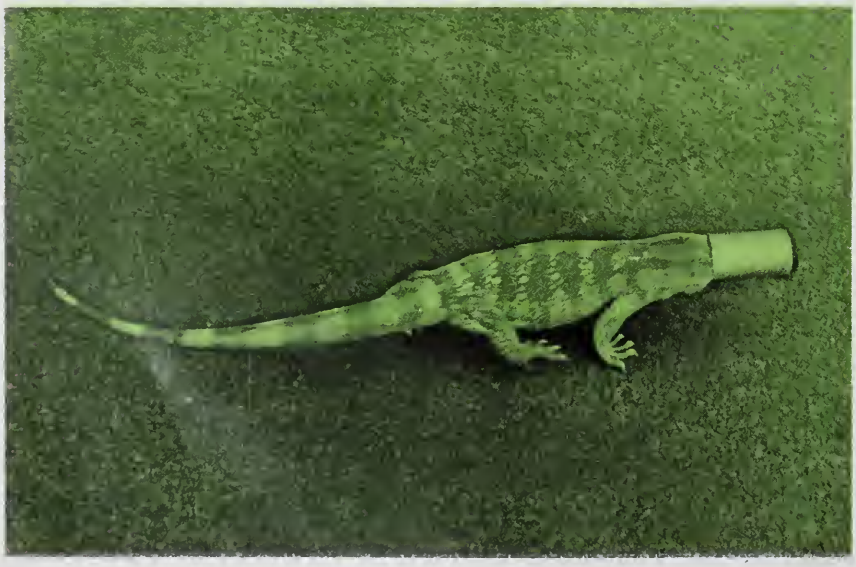
Natuurbewaringsbeampte David Skead het nooit tevore ’n protes opmars van reptiele gesien nie, en het toe gou ’n foto daarvan geneem. Daar voor hom in die middel van ’n besige hoofpad het ’n likkewaan gestap met ’n suikermielieblik stewig op sy kop. As dit nie ’n protes opmars was nie, dan was dit sekerlik ’n selfmoordstap om aan die mensdom te toon wat die dierewêreld van menslike rommelvarke dink. Mnr. Skead het natuurlik die likkewaan bevry, en ander leë blikke en bottels wat by ’n piekniekplek naby die pad rondgelê het, verwyder.

In baie lande produseer die gemiddelde persoon elke dag van sy lewe sowat vyf pond vaste afvalmateriaal. Die meeste hiervan is leë houers en verpakkingsmateriaal. In die goeie ou tyd is kos nie in blikke verpak nie, en alle bottels was van glas en kon terug besorg word. Onvernietigbare aluminiumblad was nog nie uitgevind nie, en plastiek was te kosbaar om weg te gooi. Tye het verander en so ook die voorkoms van ons stedelike strate en platteland. Klaarblyklik is afvalmateriaal vir goed met ons, en in steeds groter hoeveelhede.

Hoofsaak is nie hoe om afvalprodukte te verminder nie, maar hoe om te verkom dat dit rommel word. Daardie leë bierblik of sigaretdoos word rommel slegs as dit by ’n motorvenster uitgeskiet word of op die grond neergegooi word. In sommige lande is die deposito op elke leë bottel, dubbel, as dit in ’n nasionale park gekoop word. Dit verminder die rondstrooi van vullis. In Amerika word almeer bierhouers van aluminium gemaak wat hergebruik kan word.

Dit is natuurlik moontlik om strenger op te tree en te straf om die euwel te bestry. ’n Meer subtiele metode is om die mense in te lig oor hoeveel dit die publiek aan belastings kos om stede, paaie en natuurreservate skoon te hou. Maar op slot van sake bly dit ’n menslike probleem. Dit word deur mense veroorsaak, en kan alleen deur mense opgelos word. Elkeen van ons kan baie wen deur by te dra tot die instandhouding van ’n skoon omgewing.

Rommel kan dodelik wees.



blyderivierspoort

Die talle navrae oor akkommodasiemoontlikhede by die Blyderivierspoort-natuurreservaat toon dat daar ’n wye openbare belangstelling bestaan. Die ruskamp op die rand van die Blyderivierspoort is nou voltooi en vir die publiek oopgestel. Die ruskamp sal deur die Raad op Openbare Oorde geadministreer word en alle navrae met betrekking tot akkommodasie moet aan die Algemene Bestuurder, Privaatsak 368, Ohrigstad gerig word. Die Afdeling Natuurbewaring behartig geen kampbesprekings nie, maar is verantwoordelik vir die bestuur en beheer van die reservaat.

lisensieverkope styg

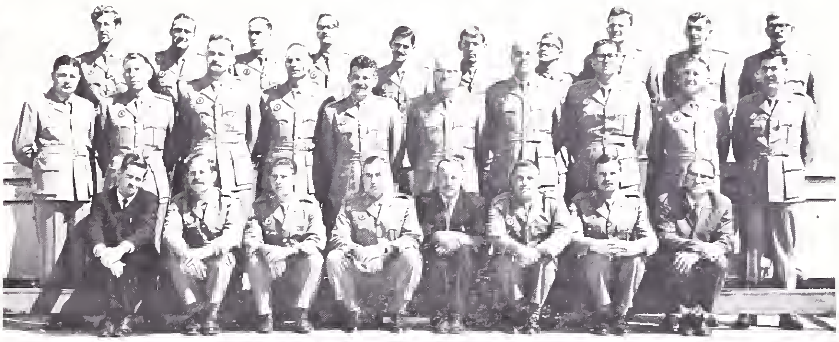
Gedurende die afgelope 12 jaar het die aantal gelisensieerde hengelaars byna verdubbel. In die seisoen 1969/70 is ’n rekord getal van 109,696 hengellisensies verkoop. Dit beteken ’n vermeerdering van 19% bo die syfer van 92,000 vir die vorige seisoen 1968/69. Die feit dat sekere sportwinkels nou ook lisensies mag verkoop mag vir hierdie styging verantwoordelik wees; daar bestaan nou 123 sulke sportwinkels. As die varswaterhengelaars voortgaan om elke 12 jaar te verdubbel sal daar in die jaar 2000 sowat 660,000 volwasse hengelaars in die provinsie wees. As hierby nog gereken word kinders wat nie lisensies hoef te hê nie, kom die getal op 800,000 te staan. Ons sal ’n indrukwekkende getal damme moet bou om so ’n leër van hengelaars te bedien. Die enkele riviere wat ons het, kan beslis nie langer word nie.

Die jagters in die Transvaal het nog ’n groot agterstand. In die 1969-seisoen is slegs 4780 jaglisensies verkoop, en selfs dit toon ’n vermeerdering van 100% in slegs twee jaar. Om aan die hengelbehoefte te voorsien sal ons nuwe waters moet skep. Om jaggeleenthede op te skuif behoort makliker te wees. Ons besit nog dieselfde oppervlakte aarde en sal slegs die wild wat uitgeroei is, moet terugplaas. As ons meer geleenthede vir jag wil hê sal daarvoor gewerk moet word.

’n Natuurbewaringsbeampte verwyder dooie vis uit honderde voet onwettige nette wat uit die Hartbeespoortdam gehaal is. Hengelaars word versoek om die Afdeling Natuurbewaring in kennis te stel van nette van stropers. Aangesien hierdie nette dikwels gemaak word van vislyn, is dit raadsaam om brokkies vislyn te vernietig of saam huis toe te neem.

agt nuwe n.b.b.’s

Die Afdeling se span Distrikdienste-natuurbewaringsbeamptes het onlangs van 22 tot 30 gestyg. Agt nuwe poste is geskep en ’n groot aantal promosies is terselfdertyd gedoen. Aan die hoof van die span is mnr. James van Rooyen, (Hoof Natuurbewaringsbeampte) wat wyle mnr. Jacobus Willemse opgevolg het. Die streekhoofde is vier Eerste Natuurbewaringsbeamptes; onder hulle is vyf Senior NBB’s en 20 NBB’s. Hierdie manne is dwarsdeur die Transvaal gestasioneer en is verantwoordelik vir wetstoepassing en voorligting. Hulle word bygestaan deur 38 Bantoe-natuurbewaringsbeamptes wat Bantoe strikstellers en wilddiewe moet vang.



Agt-en-twintig van die Afdeling se Natuurbewaringsbeamptes by hulle jaarlikse byeenkoms in Pretoria gefotografeer.

124,000 termiete

Miershope is ’n bekende verskynsel dwarsdeur Transvaal. In sommige streke is daar waarskynlik van 500 tot 10,000 per vierkante myl. In elke miershoop of nes, is daar ontelbare duisende termiete. Die bekende entomoloog dr. S. H. Skaife beskryf die dieet van grasdraer-termiete in sy boek „African Insect Life” soos volg:

„Hulle is almal grasvreters en vreet veral die gras wat uiters nodig is vir die vee. Hulle kan baie skade aanrig waar hulle volop is.”

Bioloë van die Afdeling Natuurbewaring is al ’n aantal jare besig met ’n studie van die dieet van kleiner roofdiere om vas te stel watter soorte moontlik vir skaapverliese verantwoordelik is. Die inhoud van die maag van verskeie klein roofdiere het interessante gegewens aan die lig gebring in die verloop van die navorsing. ’n Onlangse ontleding van die maaginhoud van ’n maanhaarjakkals van Schweizer Reneke het 124,000 snuitgrasdraer-termiete opgelewer. As die maanhaarjakkals vir agt agtereenvolgende dae soveel sou eet, sou hy eenmiljoen termiete verober het. Dit sou interessant wees om te bepaal hoeveel weiding eenmiljoen termiete kan vernietig.

soogdier-navorsing

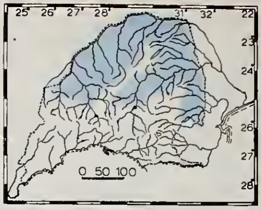
By Loskopdam-natuurreservaat is ’n tweejaar-studie oor die rooiribbok aan die gang. Die projek is deur mnr. Lynn Irby, ’n gegradueerde van die Texas A & M Universiteit onderneem, en is een van die baie projekte wat deur die Soogdiernavorsingseenheid van die Universiteit van Pretoria geborg word. Baie min is bekend van die rooiribbok wat taamlik algemeen in die Kaap Provinsie voorkom, maar skaars in ander dele van Suid-Afrika is.

In die Loskopdam-natuurreservaat is daar omtrent 300 rooiribbokke en mnr. Irby doen sy bes om daeliks so naby moontlik by hulle te kom, om hulle gedrag waar te neem. Hy het ’n aantal van die diere gevang, gekleurde plastieknekbande vir hulle omgesit, en hulle weer losgelaat, om hulle bewegings te bestudeer. Hy het gevind dat die ramme territoriaal is, en dat hy hulle kan uitlok deur hulle fluit na te boots.

Die talle navorsingsprojekte wat deur die Soogdiernavorsingseenheid geborg word sal mettertyd baie bydra tot ons kennis van verskillende wildsoorte. Projekte wat aan die gang is, of onlangs afgehandel is, sluit in studies oor die springbok, rooihartbees, swartwildebees, waterbok, bosbok, bobbejaan, rooijakkals en jagluiperd. Die eenheid staan onder beheer van Prof. J. Meester en ontvang geldelike steun van die Transvaalse Afdeling Natuurbewaring en ander instansies.

Mnr. Lynn Irby met kopbene van rooiribbokramme van die Loskopdam-reservaat.

rooiborskurper



Die rooiborskurper (*Tilapia melanopleura*) kom voor in die meeste Transvaalse warmer riviere wat in oostelike rigting vloei (sien kaart), maar hulle is selde volop. Hulle verkies stadigvloeiende of staande water en aard goed in damme met weelderige waterplante. Die vis het sy volksnaam gekry van die helderrooi kleur wat op die bors van beide geslagte gedurende die paartyd ontwikkel. Daarna vervaag die rooi in die reël tot 'n dowwe pienk.

Hengelaars noem hierdie vis gewoonlik die stompneuskurper of kleinbekkurper. Hy kan tot vier pond weeg en is maklik herkenbaar (wanneer die bors nie rooi is nie) aan die feit dat die onderste helfte van die stertvin ligter is as die boonste gedeelte. 'n Ander kenbare eienskap is ses of meer swart vertikale stroke op die sy wat baie donker word gedurende die paartyd.

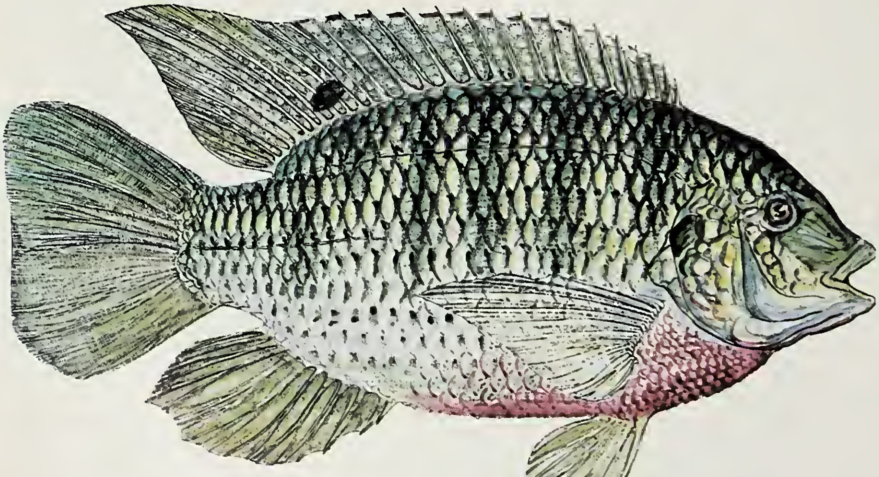
Die rooiborskurper is 'n uitstekende eetbare vis en word op groot skaal vir kos in Sentraal-Afrika geteel. Alhoewel hy hoofsaaklik plantaardige voedsel eet kan hengelaars draaiende kunsaas, lepels en gewone aas gebruik om hom te vang. In die meeste waters is die minimum lengte van vis wat 'n hengelaar mag hou 6 duim (15.2 cm). Waar daar oorvloedig waterplante is, kan *Tilapia melanopleura* net so vinnig groei soos sy naaste verwant, *Tilapia mossambica,* of bloukurper wat in twee jaar meer as 'n halfpond (227 g) kan weeg.

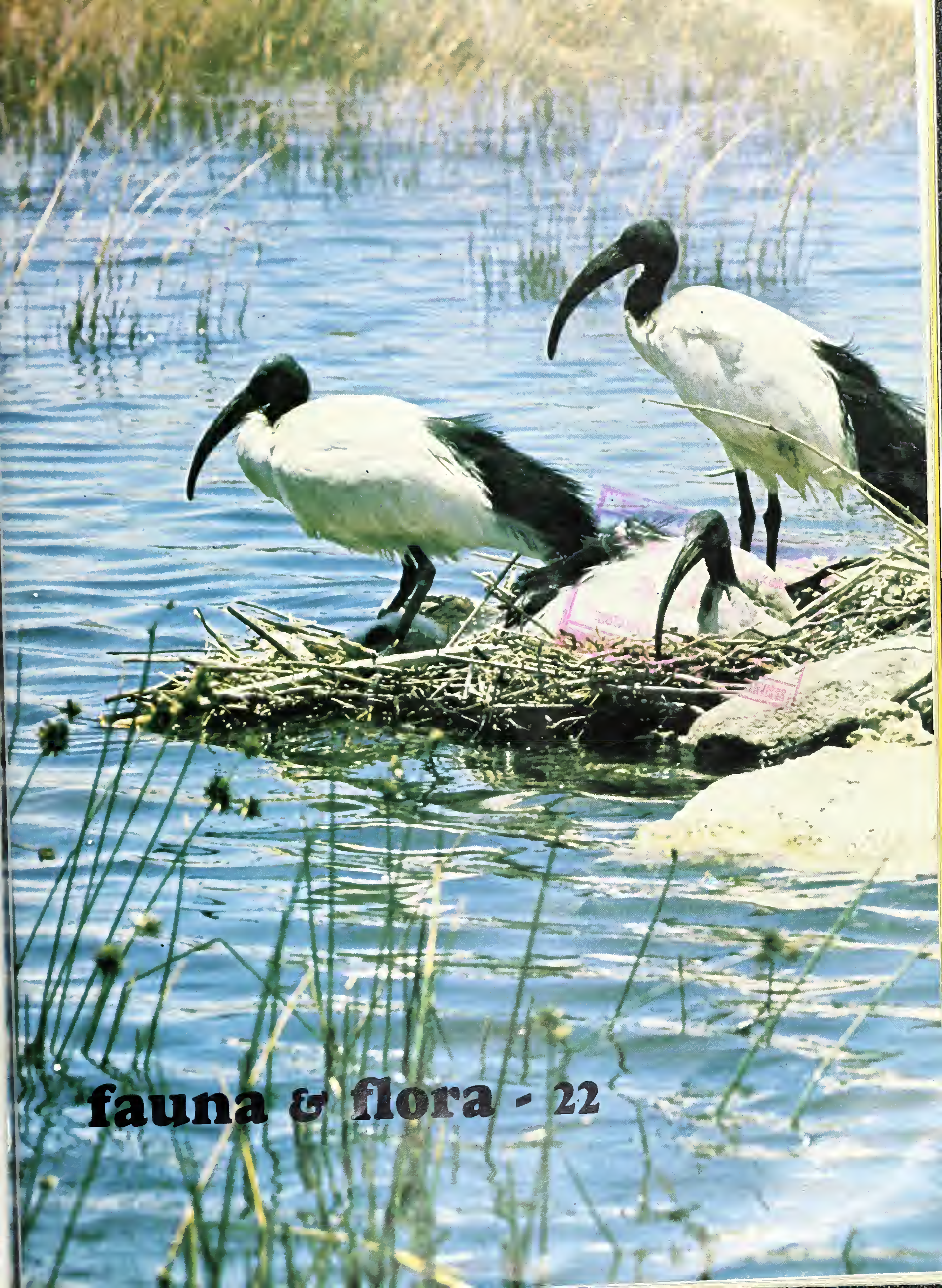
Soos die meeste kurpers het die rooiborskurper ook interessante broeigewoontes. Die eiers word in 'n vooraf bereide nesholte gelê, en word dadelik deur die mannetjie bevrug. Albei ouers pas die nes op en sirkuleer water oor die eiers met waaibewegings van die vinne. Sodra die kleintjies uitbroei word hulle in klein gaatjies wat die ouers in die modder op die bodem gegrawe het, oorgeplaas. Hulle word elke paar dae na nuwe gate verskuiwe totdat hulle vry in 'n swerm kan rondswem. Die ouers pas hulle nog vir sowat twee weke op.

Omdat die rooiborskurper groot hoeveelhede sagte waterplante verslind kan hy baie effektief gebruik word om oormatige groei van wateronkruid te beheer. Indien onderwater plantegroei nie 'n probleem is nie, is dit raadsaam om die water nie met te veel van die vis te beset nie, anders mag die plantegroei geheel en al uitgeroei word. Die rooiborskurper is nog verkrygbaar by die Transvaalse Afdeling Natuurbewaring, maar deesdae word baie min aan plaasdamme voorsien.

visse van transvaal

Die afbeelding op hierdie bladsy is uit die boek Visse van Transvaal deur Pieter le Roux en Louis Steyn. Hierdie waardevolle maar goedkoop visgids is verkrygbaar by die Skakelbeampte, posbus 5636, Johannesburg. Posorders of tjeks vir R1.75 moet aan „Visse van Transvaal" uitgeskryf word.

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fauna & flora

TRANSVAALSE AFDELING
NATUURBEWARING

MAART 1972 NOMMER 22

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Fauna & *Flora* is 'n publikasie van die Transvaalse Afdeling Natuurbewaring en word van tyd tot tyd in Afrikaans en Engels gepubliseer vanaf die Hoofkantoor van die Afdeling, Kerkstraat, Pretoria.

Intekening is gratis. Skriftelike aansoeke moet gerig word aan: Die Direkteur van Natuurbewaring, Privaatsak X 209, Pretoria, Transvaal, Republiek van Suid-Afrika.

Gedruk in die Republiek van Suid-Afrika deur
Heer Drukkers (Edms.) Bpk., Pretoria.

12 ambagte, 13 ongelukke

In natuurbewaring moet mens twaalf ambagte kan beoefen, en tog van almal 'n sukses kan maak. Dit geld ook vir boerdery; trouens boerdery en natuurbewaring toon groot ooreenkoms. In beide gevalle moet die grond en sy lewende bronne bestuur word met die doel om 'n opbrengs te lewer. Die verskil lê in die manier waarop die opbrengs gebruik word. Slegs 'n bekwame en aanpasbare boer kan vandag maar enigsins 'n bestaan maak met die behartiging van die grond, sy plantegroei en diere. Dit is natuurlik omdat hy te doen het met lewende bronne. Sy grondstowwe kan lewe of sterwe, gesond wees of in 'n swak toestand verkeer. 'n Verdere rede is dat al sy opbrengste jaar na jaar van dieselfde kwesbare oorsprong - die bodem - moet kom. Indien hy die bodem wat sy produksiebron is, beskadig, kan daar geen oes wees nie. En so ook in natuurbewaring.

Die boer wat boer wil bly, moet elke faset van sy onderneming ken: wat en wanneer om te plant, watter onkruiddoder gebruik moet word, wanneer om te oes, hoe om na 'n mark te vervoer en teen watter prys verkoop moet word? Die boer is die algemene bestuurder van sy saak, die direkteur, die kantoorbode en alles daar tussenin. Hy moet beide 'n werktuigkundige en 'n ingenieur, 'n veearts en 'n landboukundige, 'n verkoopsman en 'n ekonoom, 'n genetikus en 'n bodemkundige wees. En so ook die natuurbewaarder.

Al hierdie ooreenstemmende eienskappe tussen boere en natuurbewaarders is waar en tog ook nie waar nie. Dit is nie meer moontlik vir enigeen om 'n boer of 'n natuurbewaarder te wees nie. Boerdery het van 'n plattelandse bedryf tot 'n hoogs tegniese saak ontwikkel. Boerderymaatskappye neem opgeleide deskundiges in diens om die verskillende aspekte van die geheel te behartig. Landbou en veeteelt is nou afhanklik van 'n skaar van ander wetenskappe, beide suiwer en toegepas. En so ook in natuurbewaring.

As dit alles waar is, is die gesegde ,,twaalf ambagte dertien ongelukke" nie meer van toepassing op die boer nie, en ook nie op die natuurbewaarder nie. Hulle het nou deskundiges op verskeie gebiede geword. Hulle werk om 'n gemeenskaplike doel te bereik en die een se werk dra by tot dié van die ander in die verwesenliking daarvan. Moontlik sou mens tog nog kan sê dat 'n departement van natuurbewaring ,,a Jack of all trades" moet wees, maar die lede van die personeel moet gespesialiseerde kennis van verskillende gebiede besit.

Die behoefte aan spesialisering in natuurbewaring het ontstaan uit die veelvuldige en veelsoortige aktiwiteite van vandag. Dis nie meer so eenvoudig soos om 'n heining om 'n terrein te span en om wilddiewe uit te hou nie. Beide die verskillende wildsoorte en die besoekers aan 'n reservaat vereis toegewyde aandag en bestuur. Daar is nie slegs grootwild-reservate nie maar ook reservate vir die behoud van skilderagtige dele of wildernis-gebiede, of vir buitelugontspanning en kleiner reservate vir die beskerming van 'n bepaalde plant- of dierspesie. Navorsing moet gedoen word op die gebied van dieregedrag, bevolkings-dinamika, veldbestuur, voëlkunde, visserye, diéresiektes en wildvang-tegnieke. Afgesien van die noodsaaklikheid van 'n doeltreffende administrasie is daar baie bykomende aktiwiteite in natuurbewaring. Sommige hiervan is bv. wetstoepassing, regulering van jag en visvang, die beheer van probleemdiere, visteelt, inligting en opvoeding, padkonstruksie, akkommodasie en spyseniering.

Gaan daar iets verlore met soveel aktiwiteite en spesialisering? Moontlik ja, in die geval van die enkeling in natuurbewaring, omdat sy werk minder gevarieer en gevolglik ook minder opwindend is. Maar wat die publiek, die benutter van die natuur betref, moet die antwoord 'n besliste nee, wees. Ons natuurbronne word vandag beter beskerm as ooit tevore. Dit is omdat ekologie die basis van die kennis van elke spesialis in natuurbewaring vorm.

R.N.G.

terug na die natuur

deur s. s. du plessis

> *„That land is a community is the basic concept of ecology, but that land is to be loved and respected is an extension of ethics. That land yields a cultural harvest is a fact long known, but latterly often forgotten.*
>
> *„In short, a land ethic changes the role of* Homo sapiens *from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such."*
>
> —Aldo Leopold, 1949
> A Sand County Almanac

Wat is dit wat die moderne beskaafde mens vandag meer as ooit laat smag na die vrye ruimtes, na skoon lug en helder water of na die stilte van die veld? Is dit 'n diepgevoelde behoefte waarvan ons nou eers werklik bewus word of is dit maar omdat die ongerepte natuur waarna ons verlang al hoe skaarser en daarom soveel kosbaarder word?

Hoe dit ookal sy, die verstedeliking van ons bevolking het hierdie drang na die natuur ongekende afmetings laat aanneem. Namate die motorkar die stedeling se aanraking met die vrye natuur in momentum laat toeneem moet ons die vraag beantwoord: „Hoe gaan ons aan hierdie nuwe beweging betekenis gee?"

Ons weet dat die moderne mens deur verstedeliking en tegniese hulpmiddels sy vroeëre intieme verhouding tot die natuur moes prysgee. Wanneer hy nou terug hunker na die natuur is die verhouding heeltemal anders. Hy soek daar nou die geestelike verkwikking wat sy materiële vooruitgang hom nie kan bied nie. Maar om hieraan betekenis te gee het hy 'n bietjie hulp nodig om 'n nuwe insig in die natuur te kweek. Gelukkig dat ons kennis van die ekologie dit moontlik maak om die leek die werking van die natuur te laat begryp.

Deur hierdie kennis sal sy verblyf in die natuur nie alleen 'n oneindig verrykende ondervinding wees nie maar dit kan sy gesindheid teenoor die natuur heeltemal verander. Aldo Leopold stel voor dat die mens moet afsien van sy rol as onderwerper van die natuur en homself liewer moet sien as 'n lid van die natuurgemeenskap, wat impliseer dat hy die nodige liefde en respek vir die ander lede van die gemeenskap sal aanleer.

Die vraag na ontspanning in die natuur herinner ons weer opnuut daaraan dat die natuur meer is as net iets wat die mens moet onderwerp vir ekonomiese voordele. Daar is estetiese en kulturele waardes in die natuur wat vir die moderne mens van steeds groter belang word. Daarom kan die behoud van natuurlike gebiede waarheen die mens kan vlug nie aan die toeval oorgelaat word nie maar moet dit 'n integrale deel uitmaak van beplanning en ontwikkeling.☐

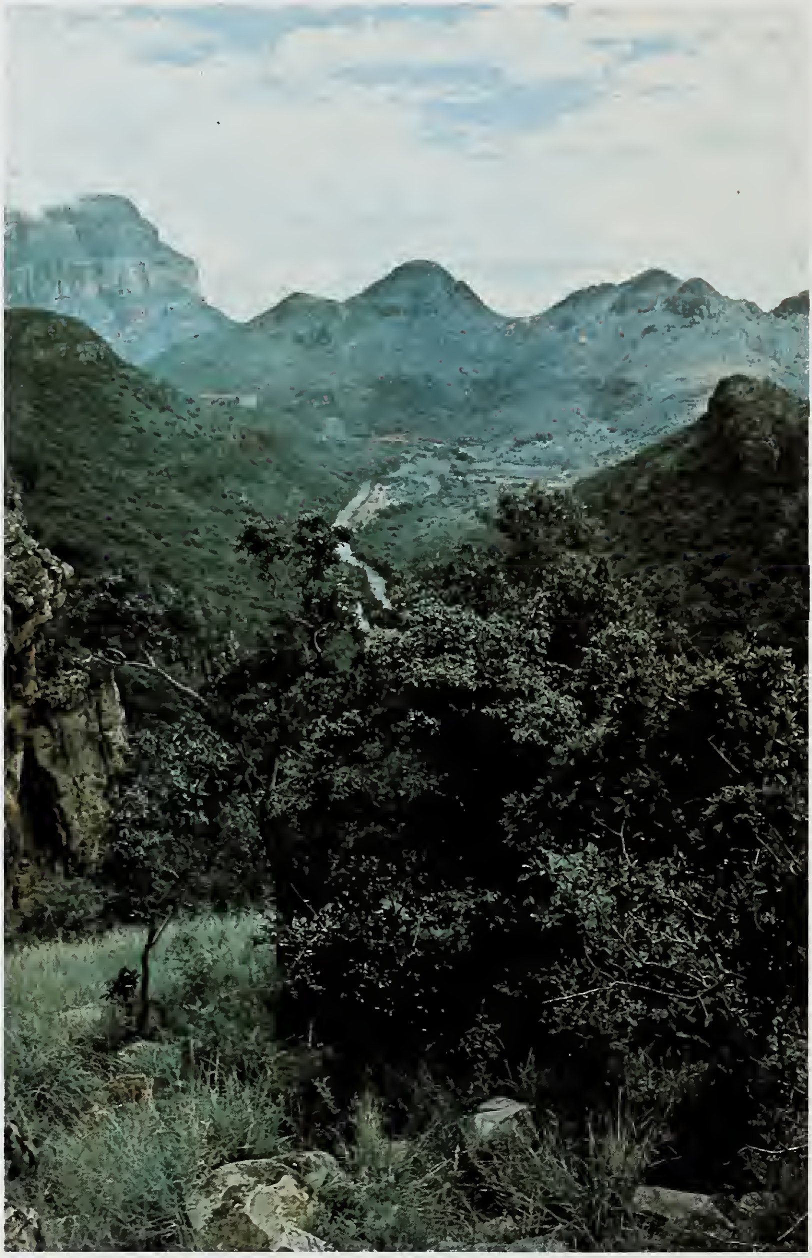
blyderivierspoort

deur g. l. lombard

In die Drakensberge wat in Oos-Transvaal die platorand vorm tussen die tropiese laeveld wat slegs 600 meter bokant seespieël lê en die oostelike hoëveld van om en by 1 600 meter, vind ons van die mooiste natuurskoon in ons land. In hierdie gebied net noord van Graskop lê die Blyderivierspoort-natuurreservaat in 'n smal strook, 57 kilometer lank, al langs die platorand tot verby die Swadenepiek in die noorde. Die reservaat is omtrent 24 000 hektaar groot en sluit die hele Blyderivier-canyon vanaf die Bourke's Luck kolkgate tot by die poort in die noorde in. Omtrent elf kilometer van die Ohrigstadrivier-canyon wat by die Blyde-canyon aansluit, val ook nog in die noordelike deel van die natuurreservaat. Hierdie pragtige afgronde wat op plekke 'n duisend meter diep is, is asemrowend in hul skoonheid.

Die werklike poort word gevorm deur die massiewe Mariepskop van 1 915 meter hoog in die suide en die 1 575 meter hoë Swadenepiek in die noorde. Deur die poort kyk mens oor 'n deinserige laeveld in die rigting van Phalaborwa in die noordooste. 'n Dam wat tans net onderkant die sameloop van die Blyde- en Ohrigstadrivier gebou word, sal 'n maksimale oppervlakte van omtrent 250 hektaar hê en behoort aansienlik by te dra tot die aantreklikheid van die natuurreservaat.

Dit is interessant hoe die Blyderiviersy naam gekry het. 'n Kommissie van vier waens van die Potgietertrek het hulle in die omgewing bevind op soek na 'n handelsroete na die Portugese hawe Delagoabaai, tans bekend as Lourenco Marques. Behalwe die trekleier, was Casparus Kruger, vader van die latere Staatspresident van die Zuid-Afrikaansche Republiek ook by die geselskap. Terwyl die waens met 'n paar weerbare mans en die vrouens en kinders langs 'n helder bergriviertjie gewag het, sou 'n groep mans te perd die berge afgaan om die roete na die see te verken. Hulle het afgespreek om op 'n sekere datum terug te wees. Toe hulle 'n paar dae na die bedaalde dag nog nie terug is nie, het die agtergeblewenes aanvaar dat hulle omgekom het, en het die rivier waarlangs



< *Die Blyderivier net bokant die samevloeiing met die Ohrigstadrivier.*
V *Die boslelie,* Clivia caulescens, *een van die tropiese spesies van Blyde, groei in die klammer bosagtige dele.*

hulle gekamp het die Treurrivier genoem. ’n Hartseer terugtog is begin, maar toe die waens by die eersvolgende rivier aankom, hoor hulle die vreugdeskote en geklap van perdepote van die terugkerende mans wat hulle inhaal. In hulle uitbundige vreugde het die Blyderivier, waarlangs hulle toe getrek het, sy naam gekry.

Toe goud in die sewentigerjare van die vorige eeu in die Pilgrim’s Rest-area gevind is, het die gebied wêreldbekend geraak. Die populêre verhaal van „Jock of the Bushveld” is ook gedeeltelik aan hierdie wêreld verbind. Dit word beweer dat die ruïnes van die goudsmelterye naby O’Keefe se hut op die natuurreservaat die plek is waar goud gesmelt is vir die Burger-ponde wat vandag beslis veel meer as hulle gewig in goud werd is.

Die kolkgate by Bourke’s Luck is so genoem omdat ’n delwer, Bourke, hier goudklonte wat ’n fortuin werd was gevind het. Die skouspelagtige kolkgate is deur maalklippe in die kolkende strome by die samevloeiing van die Treur- en Blyderiviere gevorm en is eintlik die begin van die Blyderiviers-canyon self. Die kolkgate is een van die gewildste besienswaardighede van die natuurreservaat en is omtrent halfpad tussen die noordelike en suidelike grense geleë. Hierdie punt is dan ook besonder geskik vir die hoofkwartier van die Afdeling Natuurbewaring op die reservaat en ’n behoorlike voorligtingslokaal en kantore is reeds daarvoor beplan. Parkeerruimte en piekniekplekke met slegs die basiese geriewe word ook hier aangelê. Veilige brûe en stewige relings is op die interessantste punte oor die kolkgate gebou sodat besoekers gemaklik hierdie natuurwonder uit verskeie hoeke kan besigtig.

Terwyl hierdie natuurreservaat sy ontstaan hoofsaaklik aan die natuurskoon te danke het, word die klem dáárop gelê en is daar op verskeie punte langs die pad spesiale uitkykpunte met ongeëwenaarde uitsigte. Daar is die boonste en onderste uitsigpunte by die Blyderivier-Openbare Oord, en verder die Drie Rondawels, Laeveld-uitsig, Quartskop en God’s Window. Op die nuwe Panoramaroete wat tans al langs die platorand tussen

Graskop en Bourke's Luck in aanbou is word nog uitkykpunte en piekniekplekke aangelê.

Die plantegroei van Blyderivierspoort is uniek. Van die laeveld tot bo-op die hoogste bergpieke, wissel dit binne enkele kilometers van tropiese bosveld deur reënwoud en fynbos tot hoë berg grasveld. Dit vorm ook deel van die oorvleueling van die noordelikste voorbeelde van ons Kaapse flora, soos geelhout- en stinkhoutbome, proteas, heide en sewejaartjies met 'n tropiese plantegroei wat aan 'n ekwatoriale oerwoud herinner met boommos, varings en epifitiese orgideë.

Die natuurreservaat word deur die Transvaalse Afdeling Natuurbewaring beheer maar vir die besoeker wat op die reservaat wil oorbly, is daar akkommodasie by die openbare oord, met alle moderne geriewe. Hierdie luukse oord staan onder beheer van die Transvaalse Raad op Openbare Oorde. Net onderkant die oord is daar 'n natuurpaadjie aangelê. Mettertyd sal brosjures genommerde bome en ander besienswaardighede langs die paadjie toelig. Dié wandelpaadjie wat aan die een kant van 'n klofie afgaan en aan die anderkant opkom is vier kilometer lank en op 'n gerieflike helling wat selde dertig grade oorskry uitgelê sodat mens gemaklik kan stap.

Die Blyderivierspoort-natuurreservaat bied sekerlik in Transvaal die beste geleentheid vir die natuurliefhebber om intiem kontak met die natuur self te maak. Ten opsigte van sy ontspanningspotensiaal word hierdie natuurreservaat derhalwe ontwikkel om sover moontlik aan die vereistes van alle besoekers te voldoen. Die oord bied luukse geriewe aan groot groepe mense; geteerde grootpaaie bring persone wat verkies om nie te stap nie of wat moeilik loop tot by gerieflike uitkykpunte waarvandaan die pragtige berglandskap sonder inspanning bewonder of in die fris berglug heerlik piekniek gehou kan word. Die gebied sal egter by uitstek vir die wandelaar 'n paradys wees. In die natuurlike ontspanningsgebied sal wandelpaadjies van meer as 200 kilometer aangelê word en berghutte, waar klein groepies kan

< *Die kolkgate in die rivier by Bourke's Luck.*
<< *Een van die baie uitsigpunte by Blyde met 'n blik op die vlaktes van die Transvaalse laeveld.*
V Protea caffra, *'n voorbeeld van die Kaapse flora wat langs die platorand van die Drakensberge aangetref word.*
V V *Natuurpaadjies lei tot by loodregte kranse al langs die Blyde-canyon.*

oornag, word op geskikte punte beplan. Teneinde die rustigheid van die natuurlike atmosfeer so min moontlik te versteur word groepe wat gaan wandel daarom tot 'n maksimum van vyftien persone beperk. Spesiale geriewe sal ook vir die jeug en ander georganiseerde groepe daargestel word.

Elke persoon of leier van elke groep persone wat die reservaat buite die hoofpaaie wil betree, moet in besit wees van die skriftelike toestemming daartoe en moet by die Natuurbewaringsbeampte by Bourke's Luck aanmeld alvorens hy die reservaat betree en ook wanneer hy terugkeer sodat aan enige persone wat dalk verdwaal of beseer word hulp verleen kan word. Omdat daar met die aanlê van hierdie paadjies nog maar pas begin is en ook vanweë brandgevaar, word besoekers op staptoere tans slegs vir dagbesoeke in die reservaat toegelaat vanaf sonop tot 'n halfuur voor sononder, wanneer alle persone terug moet wees.

Hoewel wilde diere nie in groot getalle op die reservaat voorkom nie, beskik die gebied oor 'n baie interessante fauna wat van ons skaarsste soorte insluit. Al vyf Suid-Afrika se primate naamlik die nagapie, bosaap, bobbejaan, blouaap en die skaars samangoaap kom daar voor. Die seldsame rooiduiker en vaalribbok kom onderskeidelik in die ruie reënbos en hoogliggende grasvlaktes voor. Dit is verder uniek dat al drie ons loeries, naamlik die Knysnaloerie, die perskuifloerie en die kwêvoël op verskillende dele van die reservaat hul tuiste vind. Seker die skaarsste vissoort in ons land kom ook in hierdie wêreld voor. Dit is die klein ghieliemientjie *Barbus treurensis* wat tot dusver slegs bekend is uit die Treurrivier en selde langer as sewe sentimeter word.

'n Trop wilde perde wat op die grasheuwels in die suide van die reservaat swerf, vorm 'n romantiese skakel met die verlede. Daar is geen sekerheid oor hulle oorsprong nie en teorieë wissel van menings dat hulle oorblyfsels is uit die dae van die goudstormloop tot los perde wat gedurende die Tweede Vryheidsoorlog verwilderd geraak het as gevolg van die talle skermutselings wat in die Oos-Transvaalse berge plaasgevind het. ☐

barberspan

deur r. n. grafton

Nou en dan ontvang die voëlkundiges by Barberspan 'n boodskap wat meer of min so lui: 543–5522 Villa Perreira 17° 02′ S, 15° 43′ E + 6–2–5. Hulle verstaan dit presies en weet dat daar nog 'n ontdekking in die raaiselagtige trek van voëls gemaak is - 'n vraagstuk waaraan hulle die afgelope 16 jaar al werk.

Die boodskap dui die geskiedenis van 'n aluminium ring aan, wat een of ander tyd om die poot van 'n voël geplaas is wat Barberspan in die verre Wes-Transvaal besoek het. Met klimmende nuuskierigheid kontroleer hulle die eerste nommer van die boodskap in die rekords van 71 093 geringde voëls. Dit blyk dan dat die voël 'n volwasse wyfie-rooibekeendjie was. Sy is in November 1965 op Barberspan gering; die tweede deel van die boodskap toon dat die voël op 'n plek met die naam van Villa Perreira gevind is. Volgens die geografiese verwysings is dit 'n klein dorpie in Suid-Angola net noord van die Etoshapan. Die plus teken dui aan dat die voël deur 'n jagter geskiet is, en die oorblywende nommers kondig die tyd aan wat verloop het sedert die voël gering is, 6 jaar, 2 maande en 5 dae.

Dusver het die ornitoloë van die Transvaalse Afdeling Natuurbewaring al 54 ringe van rooibek-eendjies teruggevind sedert die ringstasie op Barberspan gevestig is. Dit verteenwoordig net meer as 2% van die 2 547 rooibek-eendjies wat met die jare gering is. Baie meer moet herwin word maar dit is reeds duidelik dat die rooibek-eend een van ons mees beweeglike watervoëls is. Herwinnings is van alle moontlike windstreke verkry, selfs van afstande tot 1 600 km. Hulle het gekom van die suid-westelike Kaap, van Natal en die Oranje-Vrystaat,

< *Lepelaars teen sononder langs die pan.*
V *'n Geelbors-standloperkuiken met 'n genommerde ring aan sy regter poot.*
V V *Gevange eende word uit die vanghok in 'n mandjie oorgeplaas om na die laboratorium geneem te word vir beringing.*

van Lesotho, Botswana en Zambië, van Rhodesië en die hartjie van die Kalahariwoestyn, van Mozambique in die ooste en nou nommer 543–5522 van Angola in die weste.

Uit hierdie skynbare patroonlose verspreiding moet bioloë met groot sorg en noukeurigheid probeer vasstel of daar dalk 'n patroon in die beweging van die rooibek-eend is. Is daar 'n basiese noord-suid beweging, is dit so skerp dat daar sprake van 'n migrasie kan wees? Die datums wanneer hulle gering en herwin is, kan moontlik aantoon of die beweging seisoen-gebonde is, of is dit heeltemal onvoorspelbaar? Waarom kom hierdie voëls na Barberspan, waar gaan hulle heen om te broei en hulle kleintjies groot te maak?

Die bestuur van watervoël-bevolkings is baie moeiliker as dié van gevestigde voëls, soos fisante. Watervoëls is vandag hier en môre weg. Hulle steek oor provinsiale en internasionale grense, vlieg oor bergreekse en dwarsoor die wydste woestyne. Omdat hulle presies eenders lyk kan geen bioloog met sekerheid sê watter voëls waarheen vlieg nie en of dit dieselfde voëls is wat dit elke jaar doen. Die enigste manier om die raaisel op te los en die basiese inligting te verkry, is om die voëls te ring.

Om 'n metaalband om die poot van 'n eend of 'n gans te sit is iets van 'n dobbelspel maar dis noodsaaklik. Van die 71 093 voëls wat op Barberspan gering is, is slegs 809 tot dusver herwin - 'n wins van 1,1%. Dit lyk na 'n lae winsgrens op 'n belegging, maar wat onontbeerlike biologiese gegewens betref, is dit hoog. Die kolganse het sover die beste resultate van die 125 spesies wat gering is, opgelewer - 6,3% van die ringe is teruggevind.

Die grootste aantal ringe (355) wat herwin is, was van geelbek-eende, waarvan 26 940 gering is. Omtrent die helfte van die voëls was deur jagters geskiet. Dit beteken nou nie dat jagters een uit elke twee voëls dood nie, maar dat hulle verantwoordelik is vir sowat die helfte van die sterftesyfer. As die beringing van jagvoëls op groot skaal gedoen word, is dit die beste manier om vas te stel wat die uitwerking van jag op die voëlbevolking

is. Jagters moet derhalwe op die uitkyk wees vir geringde voëls en nie versuim om die gegewens te rapporteer nie.

Feitlik al die voëlringe wat in suidelike Afrika gebruik word, is, INFORM ZOO PRETORIA, gestempel. Sommige mense het hiervan afgelei dat die betrokke voël uit die Pretoriase Dieretuin ontsnap het! Die dieretuin is inderdaad die sentrale deurvoerkantoor van alle ringherwinnings. Vandaar gaan die gegewens na die Percy Fitzpatrick-instituut in Kaapstad waar daar rekords gehou word van elke ring wat in die land gebruik word. Die Instituut stuur weer die informasie aan die stasie waar die voël gering is en aan die persoon wat dit gevind het.

Die belangrikste feite wat geboekstaaf behoort te word wanneer 'n ring gevind word, is sy nommer en die vindplek. Ook van belang is die datum en hoe die ring gevind is. Indien moontlik moet die ring ook aan die herwinningsadres gestuur word, sodat die mate van verweer vasgestel kan word. Die ring van 'n „pintail"-eend wat in Meksiko teruggevind is en wat 13 jaar tevore in Utah gering was, was so afgeslyt dat die nommer skaars leesbaar was. Nuwe ringe wat in Suid-Afrika in gebruik geneem word, word nou gemaak, nie van aluminium nie maar van 'n nikkellegering wat „incoloy" genoem word en wat bestand is teen verwering en roes, en tog baie lig is.

Van al die voëls wat op Barberspan gering is, hou die bleshoender die ouderdomsrekord; dit is op Barberspan dood aangetref nege jaar nadat dit gering is. Niemand sou kan sê waar dit in daardie nege jaar was nie. Snaaks genoeg was dit ook 'n bleshoender wat die gouste teruggevind was - in Johannesburg, slegs vier dae nadat dit op Barberspan gering is. Dit is beslis 'n bewys daarvan dat die bleshoender kan vlieg in weerwil van die lomp vlerkgevladder en voetbewegings wanneer dit op die water versteur word.

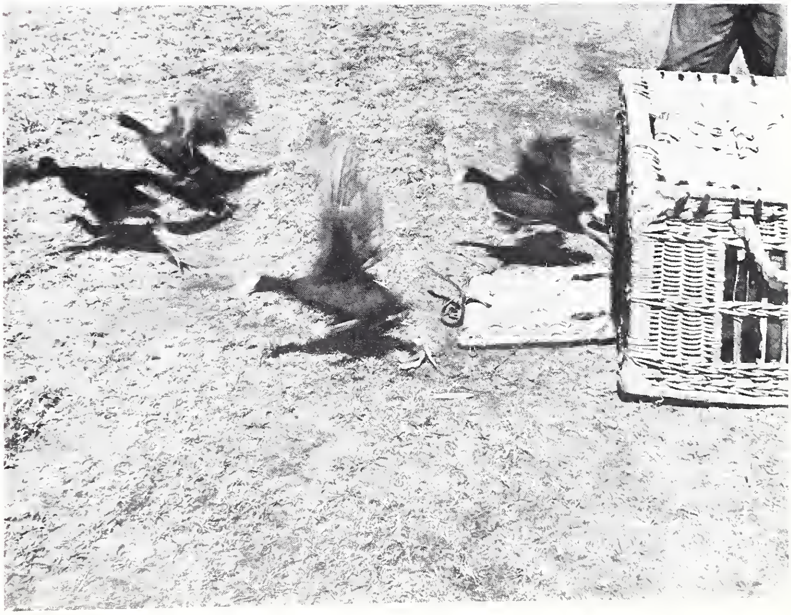
Dis nie slegs plaaslike watervoëls wat op Barberspan gering word nie. Enige voël wat gevang word in een van die drie soorte valle wat daar gebruik word, word

< *Die lepelaar is een van die baie soorte watervoëls wat Barberspan besoek.*
V *'n Aluminium ring word om die poot van 'n geelbekeend in die laboratorium geklamp.*
V V *Bleshoenders vlieg reguit water toe nadat hulle bering is.*

gering. Dit sluit in trekvoëls van oral oor Afrika, en selfs die langafstand-kampioene van Noord-Europa en Asië. 'n Klein familieswawel wat op Barberspan gering is, is net 16 dae later in die Kongo, 2 336 km ver gevind. Die stasie se mees indrukwekkende herwinning is beslis dié van 'n kemphaan; dis 'n klein strandloper wat op 5 November 1969 gering is. Oor 'n tydperk van 16 jaar is slegs 271 kemphane op Barberspan gering, waar hulle gedurende ons somer vertoef om aan die begin van die winter te vertrek. Die kanse om een van hulle in die verre noorde van Europa of Asië waar hulle broei terug te vind is inderdaad klein. Op 20 Mei 1970 egter is 'n kemphaan van Barberspan op 'n plek min of meer 62° Noord en 130° Oos gevind. Hierdie voël wat maar 25 cm lank is, het in omtrent twee maande 'n afstand van 14 500 kilometer afgelê om by Yakutiya in Siberië te broei. Die plek sal u op 'n goeie kaart omtrent 2 000 km noord van Vladivostok vind. Geen voël wat in Suid-Afrika gering is, is al ooit so ver oos gevind nie.

Om 'n voël te ring moet dit eers ongedeerd gevang word. Ses oggende van die week word op Barberspan hieraan gewy. Elke aand, behalwe Saterdae word 'n dosyn inloop-hokke met mielies as lokaas langs die kant van die dam geplaas. Op soek na kos loop eende, ganse en bleshoenders deur 'n draadtonnel in die hokke. As hulle eers binne is, kan hulle nie meer die opening vind nie en is behoorlik gevang.

Watervoëls vreet hoofsaaklik laat in die middag en in die vroeë oggend. Hulle vreet ook gedurende maanlignagte en dis juis dán, dat groot getalle, veral geelbekeende, gevang word. Vroeg elke oggend word hulle uit die hokke in mandjieagtige houers oorgeplaas en na die stasie se laboratorium geneem om gering te word. Die spesie, geslag en ouderdom van elke voël word opgeteken. Vervolgens word die ring om die voël se poot met behulp van 'n spesiale tangetjie geplaas, en die nommer en datum opgeskrywe. Die finale stap is om die voël te weeg, die graad van ververing vas te stel en enige uitwendige parasiete te versamel.



< *Wanneer die ringspan die vanghok by dagbreek nader, is daar 'n gefladder van vlerke maar die eende kalmeer gou as hulle agterkom dat die bioloë geen kwaaie bedoelings het nie.*
V *Die vier voet hoë reuse-reier soek na kos langs die oewer van die pan.*
V V *Hierdie afstootlike drie kuikens sal tot statige reuse-reiers ontwikkel - maar nie voordat die grootste beskikbare ringe om hulle pote gesit is nie.*

'n Geoefende span kan drie voëls per minuut se geslag en ouderdom bepaal en die voëls weeg en ring. Dis belangrik om vinnig te kan werk, veral op dae wanneer daar tot 300 voëls in die valle is. Sodra die werk afgehandel is, word die eende, ganse en bleshoenders na die pan teruggeneem en losgelaat. Die strandlopers en ander kleiner voëls word deur die venster van die laboratorium vrygestel. Blitsvinnig keer hulle na die pan terug, onbewus van die ring wat hulle dra en wat moontlik eendag kan bydra tot die mens se kennis van die biologie en die trek van voëls.

Van 10- tot 12-duisend voëls word deesdae jaarliks op Barberspan gering. Bowendien word daar twee voëls gevang en ondersoek vir elke voël wat gering word. Hierdie addisionele voëls is hoofsaaklik voëls wat reeds gering is, moontlik selfs die vorige dag. Om 'n totaal van 10 000 nuut-geringde voëls te verkry moet 30 000 voëls derhalwe gehanteer word. Die „val-mak"-voëls, soos hulle genoem word, dien 'n belangrike doel, aangesien hulle „val-sku"-voëls in die hokke lok. Dit lyk of sommige voëls inderdaad nie omgee om dag vir dag gehanteer te word, in ruil vir 'n vry maaltyd nie.

Op die oog lyk dit onsinnig dat die pas-geringde voëls nie onmiddellik vrygestel word nie. Die moontlikheid bestaan egter dat 'n vreemde of selfs tienjaar-oue Barberspanring mag gevind word. Derhalwe word elke ring teen die rekords gekontroleer, net in geval.

Op Barberspan kan baie spesies strandlopers wat heen en weer langs die waterkant hardloop, gesien word. Hulle name is so vreemd en romanties soos die ver lande vanwaar hulle gekom het. Kiewiet en wulp, elsie en steenloper, grutto en ruiter, snip en strandloper, kemphaan en knoet, almal is by die pan opgeteken.

Hulle word op 'n ander manier gevang. 'n Lang, lae maasdraad word oor die sand tot by 'n hok gespan. Traag om te vlieg hardloop die strandlopertjies langs die draad op soek na 'n opening. Dit bestaan nie en daarom loop hulle reg indie hok.

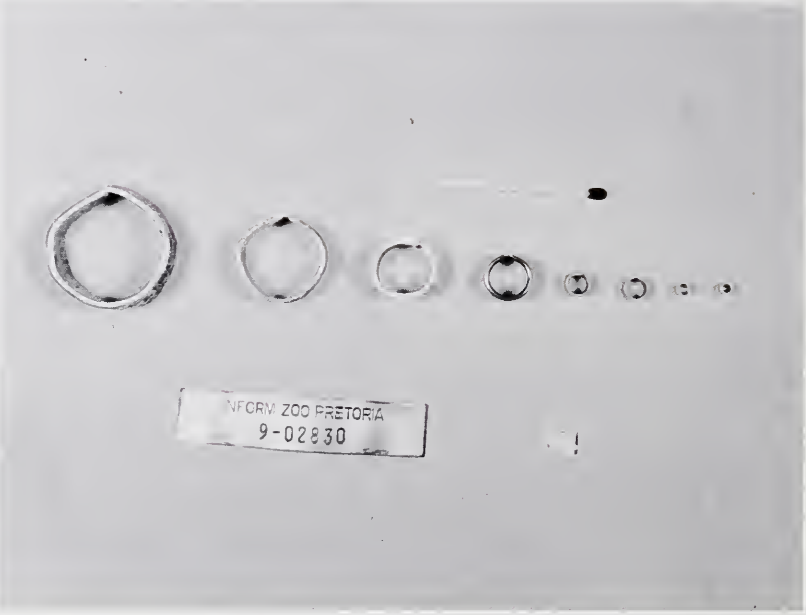
V *Die standaard ringgroottes wat in Suid-Afrika gebruik word, is van 26 mm in deursnee tot die kleinste 1,8 mm, wat so klein is dat nie eers 'n speldekop daardeur kan gaan nie.*

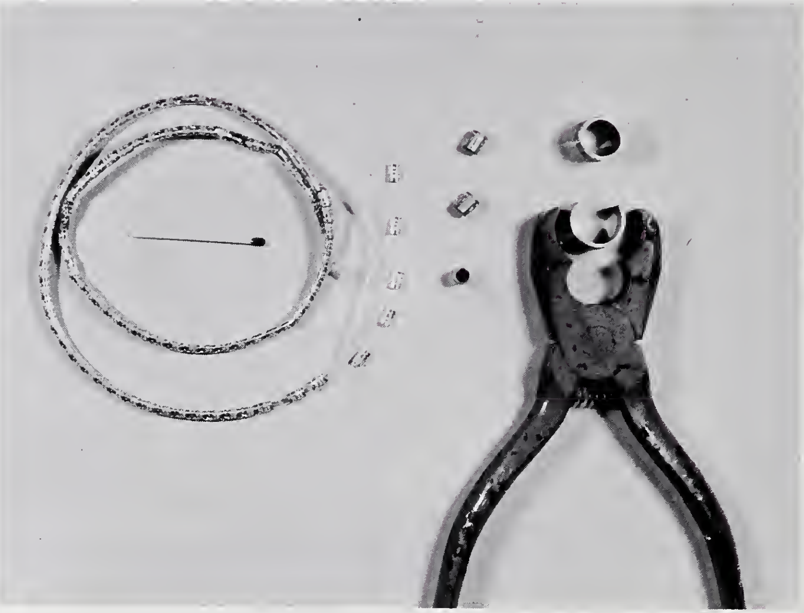
V *Spesiale knyptange word gebruik om die ringe toe te knyp sodat 'n volmaakte sirkel om die poot van die voël gevorm word. Links is die kleinste ringe wat gebruik word in numeriese orde ingeryg.*

Voëls wat op die grond in die omringende grasveld vreet, word in 'n met aasgelaaide boogstrik wat 'n fyn net oor hulle gooi, gevang. Toeklap-strikke word gebruik om pieke, laksmanne ens. te vang wanneer hulle op hulle geliefkoosde draadpaal of miershoop gaan sit. Verdere ander spesies word in misnette wat van boom tot boom gespan is, gevang. Die moeilikste voëls om te vang, is makou-eende, witrug-eende en duikertjies, wat in diep water duik om hulle kos te kry. Hulle moet uit die water met nette opgeskep word. Dit kan alleen vanuit 'n vinnige platboomskuit wat van skerp ligte voorsien is, geskied.

Die enigste manier om voëls te ring sonder om een of ander vangtegniek te gebruik is om kleintjies in die nes te ring. Inderdaad gaan baie min voëls wat op Barberspan uitbroei sonder 'n blink metaal ring aan een poot die wêreld in. Verlede jaar is 1 155 klein rooikaffervinkies in hulle neskolonies in die riete langs die dam gering. Kuikens van die skoorsteenveërs, witborsduikers, uile en reusereiers word almal in hulle neste gering. Omdat hulle ouderdom tot naastenby 'n week bekend is, sal dit moontlik wees om hulle ouderdom presies te bepaal, indien hulle in die toekoms herwin word.

Jaar na jaar word daar by Barberspan voortgegaan met die ring van voëls. Hoe meer voëls gering word, hoe groter is die kanse dat sommige van hulle teruggevind sal word. Sedert Bybelse tye het die trek van voëls die mens bekoor. Vandag wil ons weet waarheen die voëls gaan, nie bloot uit nuuskierigheid nie, maar sodat ons die bevolkings kan bestuur. Die eerste voël wat ooit gering is, was 'n reier wat in Turkye gering is en eindelik in Duitsland in 1710 teruggevind is. Die ring van voëls het in Denemarke in 1899 in alle erns begin. Sedertdien het dit oor die hele wêreld versprei en vandag dra miljoene voëls gekodifiseerde ringe. Die meeste daarvan sal in die vergetelheid verdwyn, maar ander sal gevind word en hulle boodskap sal in rekenaars gevoer word en die mens 'n entjie nader voer aan 'n begrip van die raaiselagtige wêreld van voëls. □





wat van jou rommel?

deur r. n. grafton fotos a. j. steyn

V *Die met olie besoedelde water was die oorsaak van die dood van die krap en die blik is boonop nog 'n belediging na leed.*

V V *'n Aangename plek vir 'n piekniek as dit nie was vir die selfsugtigheid van rommelstrooiers nie.*

Dis snaaks dat rommel eers rommel word wanneer dit weggegooi word. As jy dit saamneem huis-toe sal dit nooit rommel wees nie. Die moeilikheid is dat jy te lui is om dit huis-toe saam te neem. Jy is heeltemal tevrede om die plek vir die volgende besoeker te ontsier. Maar as jy nou die volgende persoon is om daar aan te kom! Ja, dan is die wêreld verkeerd en loop alle rommelstrooiers deur!

Ek sou graag wou weet wie al die rommel rondgooi. Dis nie ek of enige van my vriende nie, en dis ook nie jy, of jy of jy nie. Nee, ons het almal op die anti-rommel reklamewa geklim en sal so iets nooit doen nie. En tog gaan die rommelstrooiery voort. Iemand moet dit doen. Is dit tog maar nie miskien jy of ek nie - as niemand kyk nie?

Ons is almal ongetwyfeld in een of ander opsig skuldig daaraan dat ons, ons vullis agterlaat. Ons laat dit by ons geliefkoosde hengeloorde en by daardie pragtige piekniekplekke langs die rivier. Ons skiet dit uit ons motors in die wildreservate, gooi dit oorboord uit van ons seiljagte en snelbote en laat dit aan ons voete val by fraai uitsigpunte. Ek wens ons wou dit nie doen nie.

Daar word dikwels gesê dat daar meer vullishouers behoort te wees. Maar dié wat daar is, word tog nie gebruik nie. En wat meer is, honderde vullishouers sal ook lelik wees, veral as iemand opsigtelike advertensies daarop verf. 'n Ander oorweging is dat vullisblikke wat by mooi plekke in die natuur geplaas word, leeggemaak moet word. Dit bring weer meer vragwaens en paaie, mense en geraas - en daarmee is alle stilte en rus ook heen.

Die eenvoudigste oplossing vir hierdie rommelprobleem is: as jy dit saam gebring het, neem dit dan weer saam huistoe, wanneer jy vertrek. Leë sigaretdose, lekkergoedpapiertjies en filmomhulsels kan in jou sak of handsak bly. Vir die grotere goed soos bierblikke en bottels is daar niks meer doeltreffend as die plastieksakke wat jy by winkels en selfbedieningswinkels kry nie. Plaas 'n paar daarvan in jou motor of reissak as jy op reis gaan. Wanneer jy tuis kom behoort dit vol te wees - van rommel. □

die verhaal van ’n meer

deur g. l. lombard

’n eenvoudige oplossing vir ’n ernstige probleem

’n Aangename meertjie van 57 hektaar, wat binne die stadsgebied van Germiston geleë is, was vroeër een van die gewildste ontspanningsterreine van die Witwatersrand en hengelaars het selde bedroë van sy oewers af teruggekeer. In die voorjaar het paartjies saans ongehinderd hand aan hand langs die meer gewandel.

Geleidelik egter het reënwater siaan en piriet van die omliggende mynhope af in die meer gespoel. Na blootstelling aan die water en natuurlike elemente is swawelsuur gevorm. Ander afvloeiwater uit die stedelike omgewing het tot verdere besoedeling bygedra. Die water van die meer het al suurder geword en gevolglik het die meeste vorme van waterlewe verdwyn.

Ontploffing

Teen 1968 was die water wat ’n gemiddelde pH van 4,2 gehad het, so suur dat slegs twee muggiesoorte van die familie Chironomidae daarin kon leef. Alle ander vorme van waterlewe het klaarblyklik verdwyn en in die afwesigheid van enige kompeterende spesies of predatore was daar so ’n bevolkingsontploffing van veral een soort, dat ’n ernstige muggieplaag ontstaan het.

In September of Oktober elke jaar het miljoene der miljoene muggies saans uit die water tevoorskyn gekom en die hele omgewing verpes. Behalwe dat mens teen die laat middag nie naby die meer kon kom nie, het die muggies wat klein genoeg is om deur gewone muskietegaas te gaan, woonstelblokke in die omgewing binnegedring en die lewe vir die bewoners onuithoubaar gemaak.

Ondersoek

Die Stadsraad van Germiston was verplig om ’n plan te beraam om hierdie plaag te bestry. Die gebruik van insekdodende middels is oorweeg, maar gelukkig sou hierdie maatreël baie min doeltreffend wees vanweë die hoë suurgehalte van die water. Die Transvaalse Afdeling Natuurbewaring is om hulp genader. ’n Deeglike ondersoek is van die meer gemaak en ’n ontleding van moddermonsters het getoon dat die meerbodem in die herfs van 1969 oor die

< *Die hoësuurgehalte van die water het alle vis in die meer laat vrek.*

<< *Vis is losgelaat toe toetse getoon het dat die suurgehalte van die water gedaal het en dat voldoende kos vir die vis beskikbaar is.*

V *'n Planktonnet word gebruik om die mikroskopiese organismes in die meer te monster namate die suurgehalte tot 'n normale vlak herstel.*

> *Kleinbek-geelvis en karp is van die teelstasies van die Afdeling Natuurbewaring gebring om vislewe in die Germistonmeer te hervestig.*

537 miljoen muggielarwes bevat het. Daar is in werklikheid geen ander vorme van lewe tydens die ondersoek gevind nie. Die Afdeling het die probleem op 'n ekologiese basis benader en het inderdaad in hulle poging geslaag.

Die oplossing

Die eenvoudigste en mees praktiese oplossing sou wees om die lewensomstandighede vir die muggies minder gunstig te maak deur die suurgehalte van die water te verminder en daarna 'n gunstige omgewing te skep vir 'n gebalanseerde gemeenskap van alle vorme van waterlewe.

'n Komitee vir die herwinning van die Germistonmeer is saamgestel uit verteenwoordigers van gesaghebbende instansies om leiding te gee en die saak op te volg. Die Stadsraad van Germiston het sy volle steun aan die aanbevelings gegee en het verbruikte seepsoda van 'n naby geleë fabriek verkry, om die meer te behandel. Na die toediening van byna een miljoen liter hiervan het die pH van die water in die meer van 4,2 tot 6,0 gestyg; dit is baie nader aan die normale toestand.

Op aanbeveling van die Suid-Afrikaanse Buro van Standaarde is gewone landboukalk daarna toegedien, omdat die soda 'n te hoë minerale inhoud in die water veroorsaak het en sodoende 'n ander vorm van besoedeling sou kon laat ontstaan het. Voorsorgmaatreëls is getref om die afvloei van die mynhope en omgewing beter te beheer en die natuur het verder sy werk gedoen. 'n Daaropvolgende opname deur die Randse Afrikaanse Universiteit in 1970 het getoon dat larwes van die skadelike muggies baie verminder het en dat 'n toenemende veelsydigheid van waterlewe besig was om te ontwikkel.

Teen 1971 was daar 'n sterk algemene toename in spesieverskeidenheid en opvallende swerms watervlooie en ander nuttige plankton het daarop gedui dat die water gereed was om 'n visbevolking te onderhou. In April van daardie jaar is 5 500 karp en 1 500 kleinbek-geelvis in die meer losgelaat. Die feit dat muggielarwes 'n belangrike deel van dié vis se dieet vorm sou verder bydra tot die bekamping van die probleem. Paddas wat reeds jare nie meer in die meer voorgekom het nie, is ook nou weer terug om muggies te help vang.

Swaeltjies

Rietbeddings wat vroeër as gevolg van die versuring van die water agteruitgegaan het en ook afgebrand het, is nou weer besig om te herstel. Hopelik sal hierdie herstelde rietbeddings weer soos vroeër duisende Europese swaeltjies lok om daar te oornag. As mens in aanmerking neem dat een swaeltjie 200 muggies per dag kan eet, kan vyf duisend swaeltjies per dag een miljoen muggies laat verdwyn. Die betrokke deel van die meer word derhalwe spesiaal ontwikkel en beskerm as 'n voëlreservaat.

Die muggies is nou reeds nie meer in die voorjaar en vroeë somer 'n probleem nie en besoekers sal tot na sononder die buitelug om die meer kan geniet. As die visbevolking na 'n paar jaar goed gestabiliseer het, sal hengelaars weer soos van ouds kan kom lyn natmaak. □

veld-brokkies

blesbokfilm

Die Transvaalse Afdeling Natuurbewaring se nuwe film „Die Blesbok" is nou beskikbaar in 16 mm formaat. Die verfilming van hierdie interessante, dokumentêre film het meer as 'n jaar in beslag geneem en dek die aktiwiteite van 'n groot kudde blesbokke oor 'n volle jaar. Baie bekoorlike gebeurtenisse in die lewe van die blesbok is op smaakvolle wyse uitgebeeld: van die geboorte van 'n lam tot die afbakening van 'n terrein deur die volwasse ram en die verdediging daarvan. Hierdie film en nog ander oor natuurbewaring is by vyf sentra in die Transvaal vir openbare vertonings verkrygbaar. Enigiemand wat hierdie films wil sien kan met die naaste natuurbewarings-beampte (adresse langsaan aangegee) in aanraking tree; hy kan selfs 'n projektor voorsien indien daar nie een beskikbaar is nie. Waar die nodige projeksie-apparaat bestaan kan die films per pos van die Afdeling se Filmoteek op Hoofkantoor bestel word: Die Direkteur van Natuurbewaring, Privaatsak 209, Pretoria; telefoon 8-0872.

Streek filmdepots:

Pretoria:
Eerste Natuurbewaringsbeampte,
Privaatsak 209,
Pretoria. Telefoon 8-0355.
Kamer D. 7, Provinsiale Gebou.

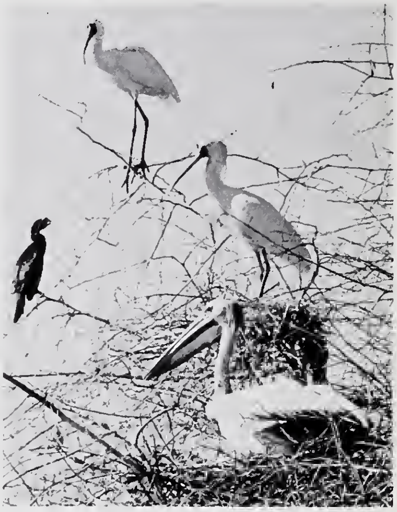
Noord-Oos:
Eerste Natuurbewaringsbeampte,
Privaatsak 502,
Pk. Letsitele. Telefoon 1111.

Oos:
Eerste Natuurbewaringsbeampte,
Posbus 21,
Klaserie. Telefoon 1130.

Noord:
Eerste Natuurbewaringsbeampte,
Posbus 217,
Pietersburg. Telefoon 4241.

Wes:
Senior Natuurbewaringsbeampte,
Posbus 43,
Swartruggens. Telefoon 80.

'n Stilfoto uit die Afdeling se jongste film - 'n pasgebore blesboklam wat sy ogies knip vir die skerp sonlig.



Die eerste keer waargeneem; 'n kleinpelikaan (onder regs) broei met sukses in die Transvaal.

broei van pelikane

Die kleinpelikaan het onlangs die eerste keer suksesvol in die Transvaal gebroei. Verlede winter is twee neste by 'n verafgeleë klein dammetjie noord-wes van Pretoria opgeteken. In tenminste een van die neste is twee kuikens grootgemaak. As 'n reël broei die kleinpelikaan in Suid-Afrika net by die St. Luciameer in Zululand. Die soutgehalte deesdae van die St. Luciawater en die gevolglike afname van vis kan moontlik die rede wees waarom die merkwaardige voëls verplig is om verder van hier af 'n geskikte broeiplek te vind. In 1970 het 'n broeipaar in Pretoria op 'n ou reiernes in die Austin Roberts-voëlreservaat gepronk maar het nie gebroei nie. By Barberspan is in 1968 'n groep witpelikane wat pronk opgemerk, maar hulle het ook nie gebroei nie; hulle broei gewoonweg op kuseilande en by St. Lucia. Moontlik kan die broei van die kleinpelikaan verlede jaar die voorloper wees van 'n permanente broeikolonie in die Transvaal.

'n Witbors-duiker, een van die baie wat op Barberspan die lewe laat as gevolg van vislyn.

verwurgde voëls

Orals waar hengelaars hulle sport geniet, bestaan die gevaar dat watervoëls kan verwurg word deur vislyne. As 'n voël in 'n vislyn verstrengel raak, is dit klaar met hom. Die lyn draai spoedig om die nek van die voël of om 'n tak vas. Die voël vrek dan as gevolg van verwurging, verhongering of verdrinking.

Dit spreek vanself dat hengelaars dikwels stukke lyn wat aan iets onder die water vashaak, verloor. Dit gebeur gewoonlik in diep water, en die verlore lyn vorm 'n bedreiging slegs vir voëls wat duik. Die vislyn wat langs die oewers of in vlak water gelaat word, waar dit maklik en sonder moeite verwyder kon gewees het, is veral gevaarlik. Eende, strandlopers, reiers en ander voëls word soms in hierdie vislyn, veral as daar ook nog 'n hoek en sinklood aan is, verstrik.

Vislyn wat weggegooi of verlore is, vorm 'n ernstige probleem by Barberspan wat 'n voëlreservaat en 'n gewilde hengeloord is. Die Afdeling Natuurbewaring se ornitoloë moet dikwels verstrengelde voëls probeer red, maar dis ongelukkig meesal te laat. Dit het al gebeur dat 'n visarend 'n groot kuifkopduikertjie gevang en gedood het omdat dit nie, as gevolg van 'n vislyn, kon duik nie. Op 'n ander keer was dit snaaks om 'n flamink en 'n bleshoender dag na dag bymekaar langs die kant van die pan te sien. Nader ondersoek het die raaisel opgelos - hulle was vas aanmekaar. Een hoek van die lyn was in die gewebde poot van die flamink en 'n tweede in die nek van die bleshoender.

Die moeilikheid met nylonlyn is dat dit nie verbrokkel of maklik verrot nie. Dit word maar net altyd meer. Net hengelaars kan help om hierdie probleem uit te skakel.

swartwildebees

In die agttien-vyftiger jare het honderde duisende swartwildebeeste op die sentrale vlaktes van Suid-Afrika gewei. Die meeste van hulle het in die Vrystaat en in die sentrale en noordelike dele van die Kaap Provinsie voorgekom. In die winter het groot kuddes na die grasvelde onderkant die Drakensberge in Natal op soek na soetveld getrek. Die swartwildebees is so ver noord soos die Transvaalse hoëveld aangetref.

In die daaropvolgende jare is dié klein wildebees met sy wit maanhare en stert ongenadiglik gedood. Teen 1900 was daar omtrent ses- of sewehonderd diere oor, en die spesie was op die rand van algehele uitsterwing. Danksy die optrede van 'n paar geïnteresseerde boere is die oorblywende aantal op privaat grond in die Vrystaat en Transvaal bewaar. Ongeveer 1945 het hulle getalle stadig, baie stadig tot omtrent 1 100 vermeerder. Twintig jaar later, in 1965, het 'n opname die getal op 1 808 gestel. Uit 'n nuwe telling, slegs vyf jaar later, het dit geblyk dat daar reeds 3 120 was; die behoud van die spesie was dus verseker.

Van die bestaande 3 120 diere was slegs omtrent 500 in die Transvaal. Die meeste van die provinsie se swartwildebeeste is afstammelinge van 'n kudde op die Afdeling Natuurbewaring se reservaat, S.A. Lombard naby Bloemhof. Twaalf diere wat van 'n naby geleë plaas verkry is, is in 1949 daar gevestig. Dertien jaar later het hulle tot 80 vermeerder en toe kon daar begin word om die jaarlikse surplus te versprei. In die afgelope tien jaar is 155 swartwildebeeste op die S.A. Lombard-natuurreservaat gevang om op wildplase of op ander reservate gevestig te word.

Die Afdeling se beleid is nou om die hoof teelkudde op 100 te hou en langsamerhand twee kuddes op ander reservate op te bou, nl. Rustenburg wat 13 diere ontvang het en Suikerbosrand wat onlangs tien gekry het. Dit is maar klein beginne maar dit was ook die geval met die 12 van S.A. Lombard in 1949. Die afstammelinge van die 12 is nou versprei oor die Transvaal, Kaap Provinsie en Natal en tel meer as 400.

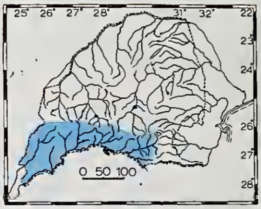
suikerbosrand

Die nuwe Suikerbosrand-natuurreservaat is sonder versuim met wild beset. Daar is reeds 240 diere van ses spesies in die reservaat losgelaat. Hiervan is 94 blesbokke en 89 springbokke wat goed behoort te aard in die oopgrasveld deel van die reservaat. Drie van die Transvaal se skaarser soorte is ook hier ingevoer, nl. 10 swartwildebeeste, 8 rooihartbeeste en 17 elande. Twee-en-twintig sebras wei weer teen die heuwels vanwaar hulle 70 jaar gelede verdwyn het.

Al die diere wat nuut daar gevestig is, is soorte wat vroeër daar voorgekom het. Aanvanklik wei hulle in 'n kamp van 1 100 hektaar maar later sal hulle oor die hele gebied van 11 000 hektaar vry kan loop. 'n Sestig kilometer wildwerende omheining word nou teen hoë koste om die reservaat gespan. Hier word nie die gebruiklike wildreservaat beoog nie, maar 'n buitelug-ontspanningsgebied. Besoekers sal aangemoedig word om te stap, te ry en uit te kamp. Daar sal geen privaat motors wees om hulle, of die wild te hinder nie. Die Afdeling Natuurbewaring hoop om sodoende 'n egte natuurgebied slegs 'n uur per motor van Johannesburg af daar te stel.

Een van die 22 sebras wat op Suikerbosrand losgelaat is, hardloop uit die hok na 'n nuwe tuiste.

kleinbek-geelvis



Die verspreidingsgebied van die kleinbek-geelvis, *Barbus holubi,* in Transvaal was oorspronklik slegs in die Vaalriviersisteem soos op die kaart aangedui word. Die vis is egter later met sukses in Transvaal in die Olifants- en Limpoporiviersisteme deur die Afdeling Natuurbewaring gevestig.

Vanweë sy veglus aan 'n lyn as hy die hoek gevat het, is die kleinbek een van die populêrste hengelvisse in die provinsie. Hierdie populariteit het navorsers op die Provinsiale Visseryinstituut by Lydenburg dan ook aangespoor om pogings aan te wend om dié vissoort onder kunsmatige omstandighede te teel vir verspreiding na ander hengelwaters, selfs buite die Provinsie.

In die natuur begin hierdie geelvis na die eerste somerreën in groot getalle stroomop beweeg om hulle eiers in gruisbeddings van die helderder bolope te gaan lê. In sy boek oor die varswatervisse van Suider Afrika, beweer mnr. R. A. Jubb dat die kleinbek-geelvis tydens hierdie broei-migrasie met gemak oor watervalle van hoër as 1,5 meter kan spring. Die kleintjies broei binne 'n paar dae nadat die eiers gelê is uit, en is heeltemal onafhanklik van die ouers. Hoewel hierdie vis dus goed aard in groter damme sal hy nie in die meeste plaasdamme aanteel nie.

Dit is nie voor 1961 daarin geslaag om die kleinbek geelvis in teeldamme met sterk stromende water en geskikte gruisbeddings op die Lydenburgse instituut te laat broei nie. Sedertdien is verbeterde metodes gebruik. Die vis is met hormone behandel, die eiers dan uit die wyfies gestroop, kunsmatig bevrug en in glasflesse waardeur varswater stroom geplaas om uit te broei. Die tegniek het die instituut in staat gestel om voldoende kleinvissies te produseer om dié gewilde hengelvis na geskikte waters te versprei waar dit vroeër nie voorgekom het nie. In die afgelope twee jaar is 110 000 kleinbekgeelvis orals in die provinsie deur die Afdeling Natuurbewaring losgelaat.

Hoewel die kleinbek-geelvis stadig groei, is vis van byna 14 kilogram al gevang. Omdat dié vis na een jaar slegs 15 sentimeter lank is, is dit te begrype dat die grotes wat gevang word dikwels vyftien jaar of ouer is.

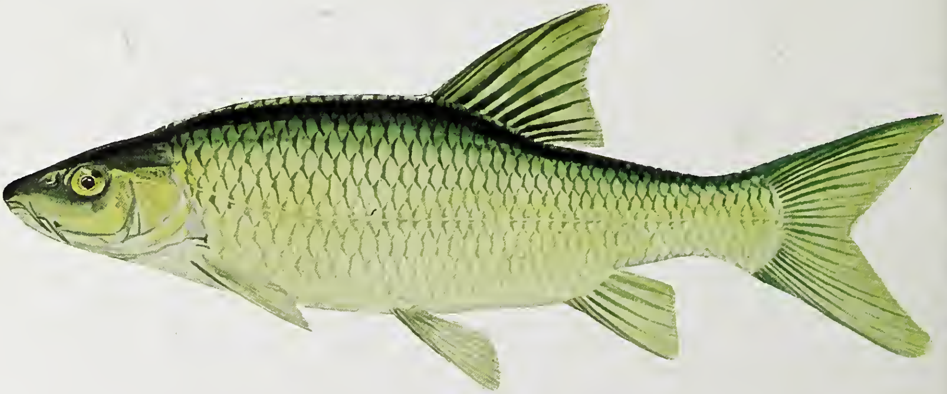
Die kleinbek- wat soms met die grootbek-geelvis (*B. kimberleyensis*) verwar word, word onderskei deur die bek wat effens onder die kop lê en die oog wat verder na agter geleë is. Die bek van die kleinbek kan ook nie so wyd oopgaan soos dié van die grootbek nie, en verdik soms baie om die sogenaamde rubberlippe te vorm, terwyl die grootbek se lippe nooit verdik nie.

visse van transvaal

Die afbeeldings op hierdie bladsy is uit die boek „Visse van Transvaal", deur Pieter le Roux en Louis Steyn. Hierdie waardevolle maar goedkoop visgids is verkrygbaar by boekwinkels of by die Skakelbeampte, Posbus 5636, Johannesburg. Posorders of tjeks vir R1.75 moet aan „Visse van Transvaal" uitgeskryf word.

Kleinbek

Grootbek



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TRANSVAAL NATURE
CONSERVATION DIVISION

SEPTEMBER 1972
NUMBER 23

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TRANSVAAL
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Fauna & *Flora* is an occasional publication of the Transvaal Nature Conservation Division and is published in English and Afrikaans at the Division's Head Office, Church Street, Pretoria.

Subscription is free on written request to: Director of Nature Conservation, Private Bag X 209, Pretoria, Transvaal, Republic of South Africa.

ISBN 0 7991 0015 3

Printed in the Republic of South Africa by
❖ Heer Printing Co. (Pty.) Ltd., Pretoria.

conservation crossroads

In the 25 years since the founding of the Transvaal Nature Conservation Division, much has changed in the field of wildlife conservation. Many of the changes have been but minor mileposts. Others have involved major changes of direction at conservation crossroads.

Strange as it may seem, we have negotiated one of these major crossroads almost imperceptibly. Without knowing quite when or where it first started, we have been gradually changing from a wildlife *preservation* policy to one of wildlife *conservation*. To many these two terms might appear synonomous but they embody very different attitudes towards our renewable natural resources. In preservation the emphasis is on protecting nature from man. In conservation the attitude is one of wise use of the resource by man.

Perhaps game ranching has had much to do with the ousting of preservation and the introduction of conservation. Ranching game is unquestionably a form of conservation. The wildlife resource is first carefully husbanded and then is used either for food or sport-hunting. For some reason, game ranching caught the public's imagination and fancy. From then on, the principle of wise use in conservation was established.

The preservation attitude of yesteryear was very much a passive policy - protect, do not disturb, live and let live. In contrast, conservation is an active concept. It involves not only wise use but also active involvement and even interference. Essentially, conservation means management of wildlife and the habitat it occupies.

Intelligent conservation is of course impossible without sound biological knowledge. Investigation and research are prerequisites to any form of management. Effective research depends in turn on the availability of trained staff. Prior to 1965 an aspiring biologist in South Africa could take only a university course in the relatively pure fields of zoology and botany. In 1965, however, the country's first post-graduate course in wildlife management was begun at the University of Pretoria. Since then a similar course has been introduced at Stellenbosch University. There is no doubt that these two events were the direct result of the change from a preservation to a conservation philosophy.

Many other events provide further evidence of the arrival of the conservation approach. The new names in the wildlife field perhaps best illustrate the changed emphasis. Our own organization, for example, was once the Fauna and Flora Section of the Provincial Administration. Today it is known as the Transvaal Nature Conservation Division. Law enforcement staff, once called Inspectors, are now Nature Conservation Officers.

There have been other developments which reflect the swing towards conservation. Our students have gone to American and British universities to take post-graduate degrees in wildlife management. Provincial wildlife departments have given increasing attention to game birds, game ranching and private land generally. Sport-hunting and the need for animals to be culled in game reserves have been largely accepted by the public. Most recently there was the formation of the professionally oriented Southern African Wildlife Management Association which publishes a journal of wildlife research.

On the occasion of the twenty-fifth anniversary of the Transvaal Nature Conservation Division, we too can look back and see how our own activities have changed with the times. The coming of the modern conservation approach has been not sudden, but slow and steady. We, and South Africa as a whole, have not yet run the full conservation course. More is to come - new ideas, new methods. Doubtless we shall be able to look back at the end of our next quarter century and realize that in 1972, although we had done well, we still had a long way to go.

R.N.G.

hunters of the night

by w. massyn

V *Owls have a very large wing area in relation to their body weight. This enables them to manoeuvre accurately and to fly with little or no flapping sounds.*

V V *The spotted eagle-owl usually raises two or three chicks. These fluffy bundles are about three weeks old.*

We are all aware that in nature things do not come to a standstill when night falls. This is the time when many insects, mammals, birds and even certain reptiles really become active. Among the night birds, owls are perhaps the most impressive. All owls are, however, not exclusively nocturnal. Some, such as the marsh owl, are often active during the day as well, particularly in dull, cloudy weather.

There are twelve species of owl in South Africa and all occur in the Transvaal. Depending on the habitat available, a number of species may be found in any one area. At the Barberspan Nature Reserve where most of the photographs illustrating this article were taken, there are six owl species - the pearl-spotted, scops, marsh, grass, barn and spotted eagle-owl. The other six owls found elsewhere in the province are the small white-faced, and barred owls, the medium sized wood owl, and the much larger Cape eagle-owl, giant eagle-owl and the rare fishing owl.

Acute senses

The small creatures of the night preyed upon by owls have very acute senses in order to survive, feed and breed. The owls that hunt them must have even more acute senses, particularly of sight and hearing. Their eyes and ears are developed to a remarkable degree. An owl's eyes are placed side by side on the front of the head to give the binocular vision so necessary for judging distances, particularly when swooping down on their prey. A type of stereoscopic view is obtained through the rather attractive habit owls have of bobbing up and down and moving their heads from side to side while watching something closely.

An owl's hearing is assisted by having the well developed ear openings facing foreward like the eyes. Certain of our owls have feathery 'ear-tufts' or crests but these are not linked to the ears and are placed much higher on the bird's head.

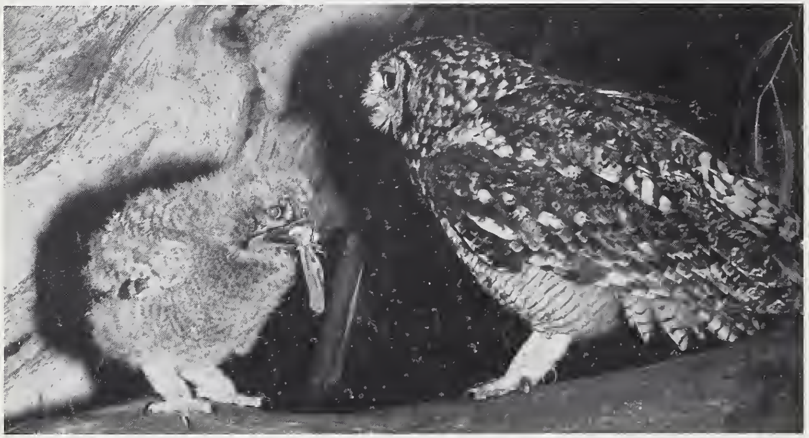
Experiments with barn owls have shown that they can capture prey in

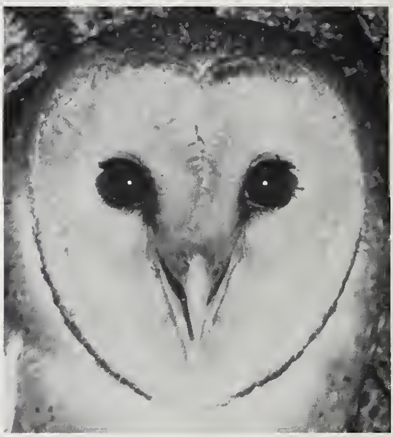
The parent bird has brought a large insect for the eagle-owl chick. Other common food items are mice, rats and shrews.

A marsh owl alights at its nest in a vlei. Most birds are able to see almost all around them but owls must swivel their heads to look left and right or behind them.

> *The spotted eagle-owl is the commonest of our larger owls. It is often seen on and along roadways and is frequently killed by passing cars.*

>> *Owls are characterised by their pronounced 'faces'. Most birds have their eyes on the side of their heads but the eyes of an owl both face foreward for better binocular vision.*





total darkness providing the prey animal makes some sound, however slight. When hunting like this, it is actually the owl's ears that home in on the target. At the last split-second, the deadly talons are brought into action to seize the prey.

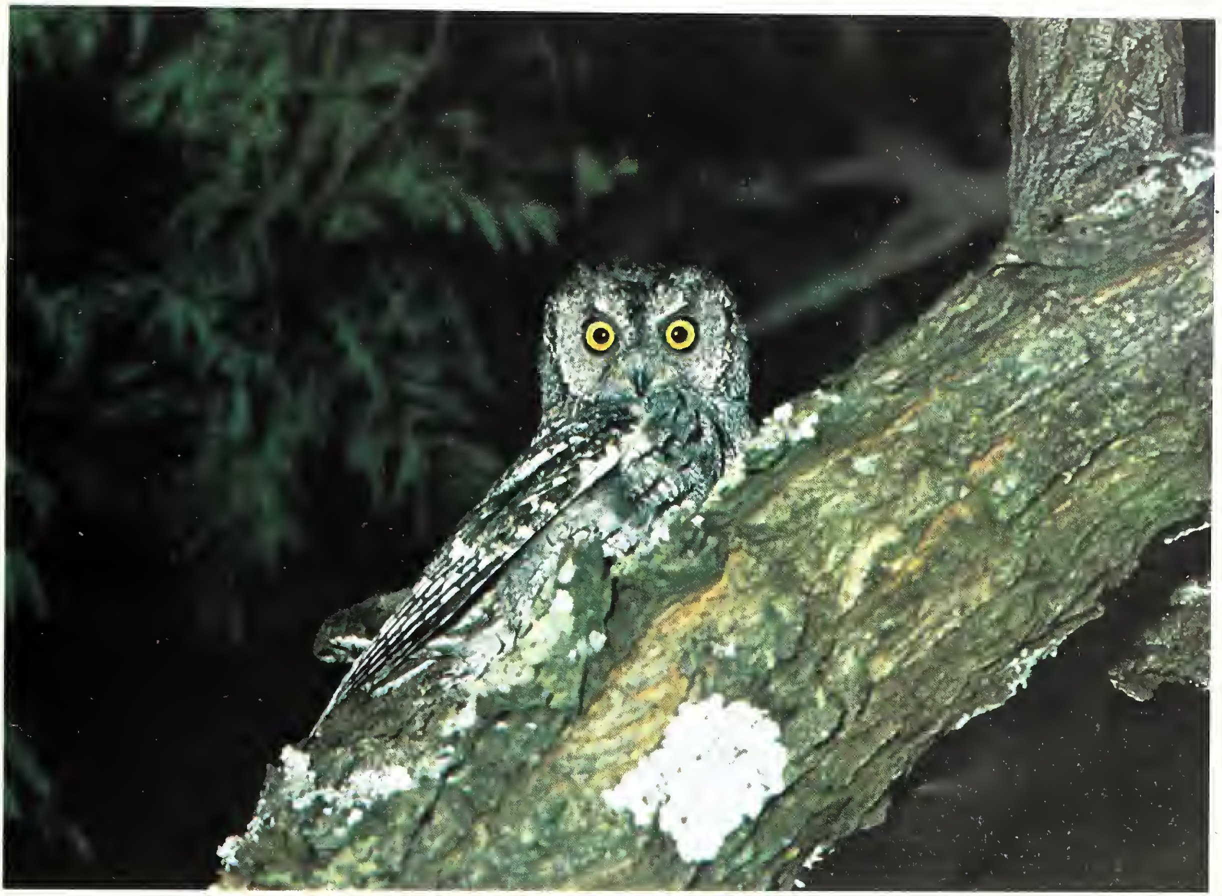
Flight adaptations

Silent flight is another requirement for successful nocturnal hunting. Most birds have stiff pinion feathers which beat noisily through the air. An owl's wing feathers are more pliable, however, and in addition to having soft margins, each feather has a velvet-like pile over most of its surface. These characteristics enable owls to fly much more quietly than other birds and thus approach their prey more closely before being detected. An owl also has a low body weight in relation to the surface area of its wings. This further enables it to fly almost silently with soft unhurried wingbeats. A crow, for example, has a wingload of about 1 gram per 2,4 cm², but in the barn owl the same load is spread over 3,4 cm² - a more than 40% improvement.

Hunters

The prey taken by owls varies widely, from insects to fish, reptiles, amphibians, small mammals and birds. Owls are very effective hunters of almost any rodent and do much to assist the farmer in holding down the numbers of these potentially troublesome animals. Being high on the food chain makes owls very succeptible to poisoning by DDT and

∨ *The scops owl spends much time perching on branches that match its colouration. This habit keeps it well camouflaged - until it opens its huge, yellow eyes.*



other pesticides. It seems a pity that this should be their cruel reward for being useful to man.

Because of their nocturnal habits, it is difficult to study owls. Much valuable information can, however, be gathered on their diet by examining their pellets. The pellets are undigested prey remains such as fur and bones which are formed into a compact mass and ejected through the owl's mouth. By examining the contents of owl pellets picked up below their roosting sites or at their nests it is possible to learn not only what the owls have eaten, but also what small mammals occur in the area. Such pellet analyses have frequently enabled biologists to extend their knowledge of the distribution of various rodents and shrews.

Legends

Owls are the subject of many legends and superstitions, having been associated with man from the earliest known times through their habit of roosting and nesting in caves and buildings. Owls were once portrayed on Athenian coins and the Bible says we should not eat owls.

Early in his career Genghis Khan had cause to hide from his enemies in a bush. An owl then settled on the bush and his pursuers, believing no one could hide so close to such an alert bird, did not bother to look for him in the bush. Legend has it that henceforth owls were regarded as sacred and the Tartars all wore plumes of owl feathers on their heads for luck. □

our first quarter century

by s. s. du plessis

It was a cold winter morning on the 1st June 1947 when I joined what was then known as the Fauna and Flora Section of the Transvaal Provincial Administration. I was a young professional officer of 26 with four years experience in fisheries work and in my new post I was to be responsible for inland fisheries in the Transvaal. My post was in fact the first to be filled in the new Section. Two weeks later I was joined by Dr. T. G. Nel who was to be Conservator of Fauna and Flora. Our first head office in Pretoria consisted of one long room at 176 Pretorius Street.

Vague concept

Looking back over the last 25 years, there is no doubt that nature conservation in the Transvaal has made tremendous strides. In 1947 nature conservation at the provincial level was a very vague concept. It involved little more than the severe restriction of hunting and for that reason found little favour among landowners. The report of the Game Commission of 1945 heralded the beginning of a new era, however. The fact that Mr. S. A. Lombard, who was Chairman of the Commission, was also the Transvaal's Provincial Secretary, meant a great deal to the development of the Nature Conservation Division in its early years. Mr. Lombard can justifiably be called the father of nature conservation in the Transvaal.

The testimony of Dr. Rudolf Bigalke, then Director of the National Zoological Gardens, carried a lot of weight in the findings of the Game Commission. Dr. Bigalke pleaded in particular for the appointment of qualified biologists to undertake the development of wildlife conservation in the Transvaal.

Where to begin?

The problems and difficulties we had to overcome in the early years would not easily be appreciated by the young men who are today fortunate to be able to join established conservation organizations. The question of how and where to begin was not easily answered, largely because of a lack of staff with experience of Transvaal conditions. Our first major tasks, however, were to up-date the Game Ordinance in the light of the Game Commission's recommendations, and to revise the Fisheries Ordinance.

At the same time, a start was made on the establishment of field stations where the practical aspects of nature conservation could be implemented. The construction of fish-rearing dams was begun at the Fisheries Institute at Lydenburg in 1948, but it was not until 1954 that permanent buildings were erected at the station. Next to be developed was the S. A. Lombard Nature Reserve near Bloemhof and shortly thereafter the Loskop Dam Nature Reserve. Today the Nature Conservation Division has 15 manned field stations with a total area of 57 000 hectares.

Many of us now wish that some of our field stations had been better located. The question is often asked, for example, why the important Lombard reserve was placed in such a remote corner of the province. The reason was, of course, that the land was already owned by the Provincial Administration. The original farm had been used during the war years to breed mules for pulling road-making equipment. At the end of the war the mules were disposed of and the farm would have been sold had it not been proclaimed a nature reserve. In those days, the value of wildlife reserves was by no means generally accepted and we had to accept whatever land was available.

Able leadership

One of the major events in the history of nature conservation in the Transvaal was the appointment of Mr. Theunis Steyn as Conservator of Fauna and Flora in November 1951. His first important task was to persuade the province's political leaders of the value of nature conservation. Under his able leadership, the Nature Conservation Division was given direction and purpose and it grew to become one of the leading organiza-

< *Mr. Theunis Steyn, the Division's director for 17 years from 1951 to 1968.*

<< *Line upon line of poached game biltong drying in the sun. Twenty-five years ago, one of our major tasks was to bring home the fact that game supplies were not inexhaustible.*

V *The first offices erected at the Lydenburg Fisheries Institute - a far cry from the elaborate buildings and facilities now available to the staff there.*

V V *Our first fisheries expedition to the Pafuri River in 1948. Only the two of us in the centre were employees of the Division; the others were just willing helpers, including policemen!*

tions of its kind in southern Africa. The late Theunis Steyn will also be remembered for initiating the founding of the Eugène Marais Chair of Wildlife Management and the Mammal Research Institute at the University of Pretoria. At his own cost he attended a university course in wildlife management in the United States and thus became one of the first South Africans to be trained in this field.

The late Public Service Inspector, Ralph Schnugh, made a valuable contribution to nature conservation with his Inspection Report of 1962. This report not only allowed the creation of an effective staff organization for the Nature Conservation Division but also the establishment of a special research section. In this way research came to take its rightful and important place in the Division.

Degree course

Over the last 25 years, the event most meaningful to nature conservation generally, was undoubtedly the establishment of the post-graduate degree course in wildlife management at the University of Pretoria in 1965. The influence of this course on wildlife conservation has been so great that 1965 can be regarded as the beginning of a new conservation era.

While we in the Division were achieving much over the last 25 years, the most impressive development of this period occurred, almost independently, within the private sector. This was the dramatic awakening of public interest in nature conservation. No one in particular was responsible for this. The Division perhaps served as a catalyst but a great many individuals and other organizations also played a part. As has happened in most civilized countries, we in South Africa have come to appreciate the binding links between man and nature. The establishment of ecology as a science has had much to do with this realization.

Farmer's rôle

The landowner has remained, throughout, the pre-eminent figure in nature

Stocking our provincial nature reserves with game was no easy task in the early days. This young hippopotamus was destined for the Loskop Dam reserve.

conservation. This review would be incomplete were we not to acknowledge the indispensable rôle played by farmers over the years. Last but not by any means least, we must remember too the unfailing support and dedication given to the Division by the Executive Committee of the Provincial Council and by the staff members who have served over the years.

Where do we stand now and in the future? I believe we have reached the stage at which the public can now begin to reap the benefits of years of conservation toil. The nature reserves established over the last quarter century are being opened to the public at an increasing rate and visitor numbers are climbing rapidly. We have breeding herds of virtually every important big game species and rare antelope such as roan and tsessebe have been saved from the brink of extinction in the Transvaal. The availability of game for stocking farms has improved considerably and very often one farmer is able to supply another with animals. The management of public angling waters is now much more effective thanks to the knowledge gained over the years. A system has been established whereby plant collectors are able to acquire protected plants which would otherwise be destroyed by farming or construction work.

Natural areas

The rising demand for outdoor recreation opportunities prompts us to combine nature conservation and recreation to an increasing extent; we must ensure, however, that the growing numbers of visitors are able to enjoy natural areas without damaging them. This will require not only a sound knowledge of nature but also an understanding of and interest in people. We believe that man has a deep-seated need for contact with nature. To make this contact meaningful, we must be able to satisfy his newfound yearning for an understanding of nature. When civilised, urban man discovers the fundamental values and meaning of nature, we will have achieved our ultimate goal. □

game capture the hard way

by w. k. kettlitz

Game capture today is a sophisticated matter involving nets, barriers of plastic sheeting, immobilizing drugs, helicopters and experienced teams of experts. In contrast, I remember well the struggle we had 25 years ago to catch just one animal, let alone a hundred at a time as we can today. Let me tell you of a couple of our early attempts at catching game to stock nature reserves.

In 1948, when the Transvaal Nature Conservation Division had but three staff members, it was not possible to spare more than one man at a time for field work. On one occasion my boss told me to go down to the lowveld and catch some impala. I asked for a bit of advice on how to go about such a tricky assignment and he replied: "Man, you must just make a plan".

My first requirement was of course a vehicle in which to transport all those impala I was going to catch. After much cajoling I managed to lay my hands on a battered three-ton army truck which someone else had already written off. Although the motor still ran, the entire floor of the cab was missing. Well, I found some planks to use as floorboards and a brick came in handy to get my foot up to the level of the accelerator. After a few other major adjustments I set off for the lowveld where a farmer had said we could catch impala on his ranch.

Still optimistic

The old truck somehow made it to the farm and I quickly set about making a cage on the back of the lorry and a holding pen for the impala. I was still optimistic about catching some, you see. That night, after the moon had risen romantically, I climbed up into the old army truck, adjusted the brick carefully, and then set out to find my quarry. I had still not really made a plan but I had an idea that if I shone the headlamps on some impala, they would be blinded by the light, mesmerized in fact. Then all I had to do was get out, sneak around behind - and the boss would have his buck.

That first night was a very long night. Sure, we found the impala alright, but getting anywhere near them in that rattletrap truck was another matter. The headlamps were also another matter. They don't make headlamps like that anymore - thank goodness. They gave out a sort of an anaemic orange light which fell on the ground just ahead of the truck's front wheels. Sometime after midnight the impala got tired of playing games with my metal monster. About the same time I got tired of searching in the dark for shapes that moved, or had two green eyes, so I trundled back to camp and turned in.

Next day I tried hard to think of a plan that would work, but couldn't. Maybe it was just inexperience that was keeping those leaping flashes of tan and white out of my reach. I had the bright idea though of setting the headlamps higher; maybe that would help blind the blighters. Came nightfall, I set off again, full of confidence.

Pandemonium

Pretty soon I had a whole bunch of impala hypnotized by the lights. According to plan, I sneaked out of the truck and crept towards them. As I rounded the last thornbush to their left, pandemonium broke loose. There were impala dashing everywhere, with me in hot pursuit. I chased after about six that ran straight for the truck and just knew that now I had them. To this day I'm not sure what went wrong. I seem to remember blinding headlamps, a wag-'n-bietjie thornbush, a haak-en-steek thornbush and a very solid tree trunk. Sitting there dazed on the ground, I realized that the secret was to concentrate on one leaping impala at a time.

After a short period of meditation I set out again and was soon chasing impala hither and thither among the bushes. They seemed to keep about 90% of their acceleration in reserve for the moment I got within three metres of them. The thornbushes, however, seemed quite incapable of getting out of my way. After a couple of hours of this I was scratched, bruised and bewildered.

But then it happened - I caught my first impala. Come to think of it, maybe he caught me. There was this dainty little ewe skipping around a bush with me charging after her. Behind the bush was this big ram wondering what was going on. Perhaps you could say we took each other by surprise. Anyway, one way or another, we bowled each other over. From my prone position, and before the ram could get off my chest, I grabbed him by the horns with a sort of a reflex action. In no time at all I had that great big impala ram into the truck and back to camp.

Expert poacher?

Around about noon the next day a stock-inspector chap pitched up at my camp. I showed him the impala in the kraal and he looked impressed. I explained how easy it had been to catch the beast and he looked surprised. He glanced at my scratches and my torn clothes and said something about the moon being very bright last night and I must have had a lot of luck. At about this point my ego realized I was dealing with an expert, maybe an expert poacher. Not to be outdone, I mentioned the heavy clouds and that it should be very dark tonight and wouldn't he like to give me a hand catching some dumb impala ewes.

After a beer and some boerewors we set out into the bush and, man, was it dark. There were no shadows to confuse me and the impala just stood there staring at our headlamps. I even managed to catch one while the stock inspector caught three. About then the moon came out and the impala got all jumpy. Now they behaved as they had the last two nights and I began to understand where I had gone wrong. Fortunately the next night turned out cloudy and dark so we were able to catch just enough impala to fill the truck. I must concede that in the process I learnt just how sharp are the hooves and horns of an impala?

Too smug

Feeling very pleased with myself, I started the journey back to head office. When I stopped at cafés and garages along the way I got lots of strange looks from bystanders. Perhaps it was because of my torn jacket, blood-flecked shirt and ripped trousers. I was too smug, of course, to notice all this. Had I not, after all, learnt precisely what not to do when catching impala in the lowveld.

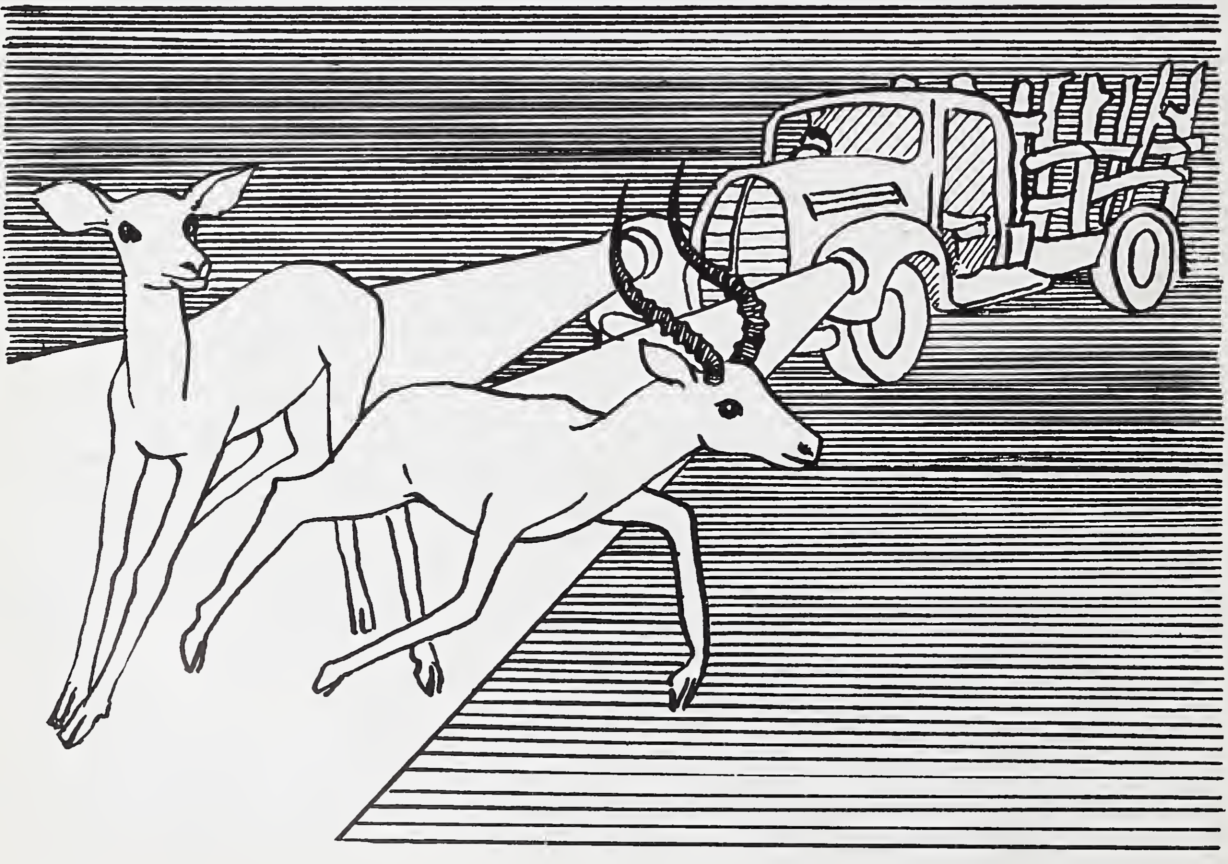
My triumphant return to Pretoria seemed to impress the boss because he immediately had another game capture assignment for me. This time it was a sable bull that a farmer said he had caught in his cattle kraal. Undaunted by the size or reputation of sable bulls, I set out for the farm. Just in case I might need a little help, I picked up a young police constable at Leydsdorp. I assured him that there was nothing to worry about, I knew all about catching game.

For dear life

On arrival at our destination, the farmer chap looks us up and down and enquires politely: "I take it you know something about the sable antelope?" I told him I had seen them a few times in the veld. He gave a bit of a smile and said: "Well today you are really going to learn a lot about the sable. And I'm telling you, this animal is dangerous. When you grab him, you better hang on for dear life otherwise someone is going to get killed."

With trepidation lurking in the background, we decided on a plan of action. The farmer would lean into the pen with a noose on the end of a pole and catch the sable by the horns. We would then all leap into the kraal and grab whatever part of the animal was nearest. From my position up on the fence I had already decided to go for the horns before they went for me.

The sable wasn't interested in the pole and noose. Every time it came near his head he would hurl it aside with those magnificent horns. Then the farmer first feinted then jabbed again and the noose slid over the horns. "Grab him",



he yelled. Unfortunately the buck was right in front of *me* so in I jumped and grabbed. At the same time the sable flicked his head and the noose went sailing into the air. "Grab him", yells the farmer again, and I lunge at the horns. "Hang on, mate. Hang on", shouts the farmer, so I hang on.

What with all the noise, the sable started dragging me around the kraal looking for an opening. For my part, I only remembered the words "... someone is going to get killed today". Now that kraal fence actually consisted of densely packed thorn branches and the sable was vigorously scraping me along it, quite unintentionally of course. Suddenly he decided that the only way out was straight through the fence. Together we charged the wall of branches and together we stuck for a painful moment among the thorns. The farmer shouts: "Now, quickly", and everyone jumps into the fray. With much yelling and cursing we slowly emerged on the outside of the fence with the valiant sable still kicking but secure. A few more shoves and we had him into a large crate and onto the truck.

Farmer's generosity

Thinking back after 25 years, I can barely recollect the details of my wrestling match with that sable bull. What I do remember quite distinctly though is digging out thorns, sticks and gravel from all over my bruised body. The sable, of course, was taken to a new home and released with others of his kind. Over the years, many provincial nature reserves were stocked with game as a result of the generosity of farmers. They have assisted not only us, the Nature Conservation Division, but also their fellow farmers who were keen on wildlife. Without their interest and enthusiasm we would have achieved but little over the last 25 years. □

transvaal's big trees

by a. koeleman

Late last year the Transvaal Nature Conservation Division launched a survey to find the biggest and tallest indigenous trees in the province. The public was asked to send in information about particularly large trees of any species. A most enthusiastic response has been received, not only from the Transvaal but also from the other provinces, South West Africa and even Malawi.

The purpose of the Big Tree Survey is not only to find the largest specimens but also to promote public interest in and respect for our unique natural vegetation. Hopefully, the survey will lead not only to the protection of the ancient giants but also to a general appreciation of all indigenous trees, big and small.

Eugène Marais

Our search for the Transvaal's biggest trees also celebrates the 100th anniversary of the birth of that famous naturalist Eugène Marais. In his book *'n Paradys van Weleer* he described the huge monkey-thorn trees which grew on the farm Deadbeat in the Potgietersrus district. It seems that these trees are no longer standing and even the farm Deadbeat no longer exists. Chief Conservation Officer James van Rooyen knew however of a giant monkey-thorn on the Magalakwen River and Eugène Marais had said this river was nearby. The tree was measured and found to be a mighty 35,4 metres tall. The name of the farm was however Buckingham, not Deadbeat. With the help of Mr. C. J. Reyneke it was eventually discovered that Deadbeat had been subdivided long ago and that Buckingham was indeed a part of the farm which Marais had known.

Are there taller trees?

Do you perhaps know of indigenous Transvaal trees that are taller or greater in girth than those mentioned in this article? If so, write to us (Director of Nature Conservation, Private Bag X209, Pretoria) or let your nearest Nature Conservation Officer know.

For some time the Buckingham monkey-thorn was the tallest indigenous tree we knew of in the Transvaal. Then, however, Conservation Officer D. F. Potgieter said he had discovered another monkey-thorn on the farm Zandrivierpoort near Warmbaths which looked just as tall, if not taller. The tree was measured and sure enough, it was 1,2 metres taller. At 36,6 metres or 120 feet this monkey-thorn remains the Transvaal champion in height. Somehow we don't think this record will stand for long. Given time, someone will surely find a taller tree and tell us about it.

Perhaps the new contender will be a yellowwood tree from the eastern or northern Transvaal. Yellowwoods are seldom easy to measure because they grow deep in forests or in steep, inaccessible places. We have records of quite a number of yellowwoods estimated or roughly measured to be just over 30 metres tall. So far an Outeniqua yellowwood on the farm Dientjie in the Pilgrim's Rest district seems to be the tallest in the yellowwood family. Standing just over 35 metres high, it takes third place in the Transvaal just behind the two monkey-thorns.

Only three other tree species have so far been recorded reaching heights of over 30 metres (about 100 feet). These are single specimens of the nyala tree, the ana tree, and the well-known fever tree. Another nyala tree, although about 14 metres shorter than the tallest, has a tremendously thick trunk measuring 12,2 metres in circumference. This measurement, taken four feet above ground level, places this nyala tree second behind the baobabs in our list of record girths.

A large ana tree on the farm Groothoek in the Pietersburg district, although not of record size, has an interesting history. The present owner of the farm, Mr. D. S. Pretorius, relates that the tree was planted by a Mr. P. J. L. Roets about the middle of last century. Mr. Roets was eventually killed by a lion at the age of 75 years. This was in 1899 and by then the ana tree was large enough to be used as an outspan point by the postal coaches on the Bulawayo run and by the wagons transporting copper from Messina to Pietersburg. Today, the site has been fenced off and is used only for picnics on New Year's day.

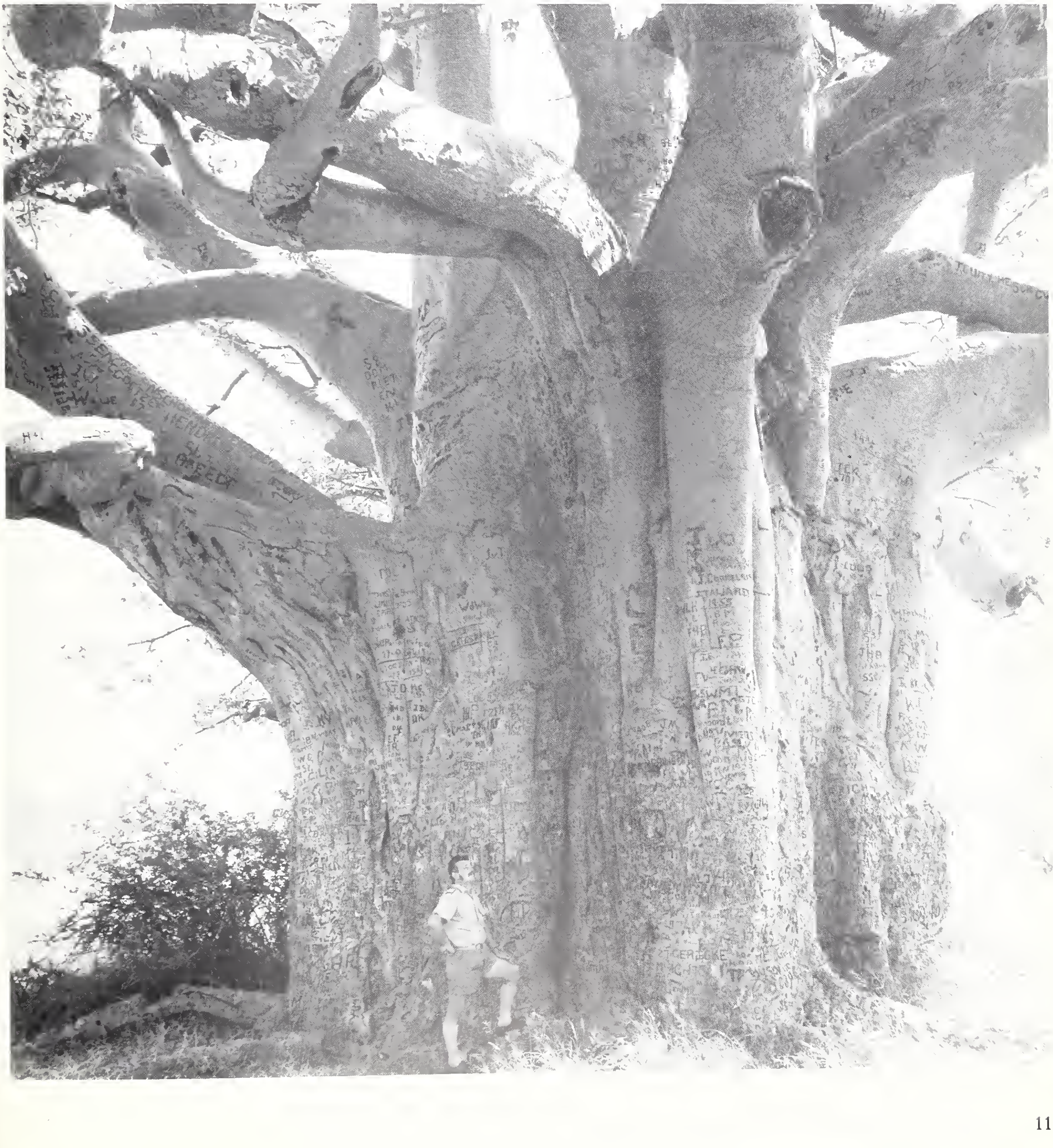
Conservation Officer J. P. van der Walt recently sent in the measurements of what must surely be the biggest cabbage tree in the country, let alone in the Transvaal. Cabbage trees (kiepersol in Afrikaans) are usually relatively small trees, especially the highveld species which normally does not exceed 6 or 7 metres in height. Mr. Van der Walt's report, however, is of a highveld cabbage tree fully 27,4 metres tall. This giant is in thick forest on the farm The Downs in the Letaba district. It consists of little more than a huge trunk and a few branches with hardly any leaves. The reason for this could be age but is more likely the strangle-hold of an epiphytic fig tree which grows on the cabbage tree. The fig itself is of an exceptional height but cannot really be regarded as a candidate for the record book because it started growing well up the trunk of the cabbage tree and relies on its host for support.

Wonderboom

Although fig trees appear well down our list of tall trees, they are without doubt among our biggest trees in terms of bulk and spread. Depending on how you measure it, the well-known "Wonderboom" fig in Pretoria could well be the largest tree in the country. It has not one trunk but many. The original, central trunk, of which only faint traces now remain, was almost four metres in diameter. Today, the highest branches reach to about 23 metres but the tree is famous more for its vast spread of 50 metres and its many secondary trunks.

Dr. A. Eicker of the botany department of the University of Pretoria sent us some interesting facts about Pretoria's wonderboom fig. He explains that it is a multiple-stemmed tree. Where branches touch the ground, roots develop and

V *Conservation Officer Nick Oosthuizen is dwarfed by the trunk of the Nonsiang baobab. Why people must carve their names on such natural wonders is beyond explanation.*



Approximate dimensions of the largest specimens of Transvaal trees recorded to date.

Tree Species	Height metres	Circumference metres	Spread metres	Location
Monkey-thorn	36,6	8,2	35,7	Warmbaths
Monkey-thorn	35,4	6,4	36,0	Potgietersrus
Outeniqua yellowwood	35,1	5,1	22,9	Pilgrim's Rest
Outeniqua yellowwood	28,0	6,8	11,0	Pietersburg
Real yellowwood	30,5	6,7	15,2	Pilgrim's Rest
Yellowwood	30,5	4,8	27,4	Nelspruit
Nyala tree	32,0	7,2	32,9	Messina
Nyala tree	18,3	12,2	—	Waterberg
Ana tree	30,5	6,4	18,3	Pilgrim's Rest
Fever tree	30,5	2,7	25,6	Messina
Highveld cabbage tree	27,4	6,5	—	Letaba
Baobab	25,9	19,2	32,9	Messina
Baobab	15,2	39,2	—	Letaba
Leadwood	25,6	4,5	—	Pilgrim's Rest
Dogplum	24,4	7,9	31,1	Pilgrim's Rest
Lowveld cabbage tree	24,4	5,5	18,3	Nelspruit
African ebony	22,9	4,3	31,1	Pilgrim's Rest
Peters' wild fig	2,29	6,7	36,6	Barberton
Wonderboom fig	2,28	—	50,3	Pretoria
Sycamore fig	21,3	6,8	24,4	Pilgrim's Rest
White stinkwood	21,3	3,6	—	Marico
Paperbark-thorn	21,3	2,7	—	Letaba
Mbola plum	21,3	2,1	21,0	Letaba
Tree fushsia	20,1	4,0	22,9	Messina
Wild olive	18,3	4,9	19,5	Potgietersrus
Buffalo thorn	18,0	1,5	9,0	Pretoria
Marula	16,8	3,4	16,5	Thabazimbi
Waterberry	16,8	3,4	15,2	Thabazimbi
Haak-en-steek	16,8	2,7	15,5	Thabazimbi
Matumi	16,8	5,0	12,5	Letaba
Knob-thorn	14,9	3,2	18,7	Middelburg
Tamboti	14,6	4,3	11,9	Thabazimbi
Camelthorn	13,7	3,7	19,5	Brits

< *The trunk of what must surely be the largest highveld cabbage tree in the country. The height is about 27 metres and the girth 6,5 metres.*

<< *An immense fever tree on the banks of the Sand River in the Messina district.*

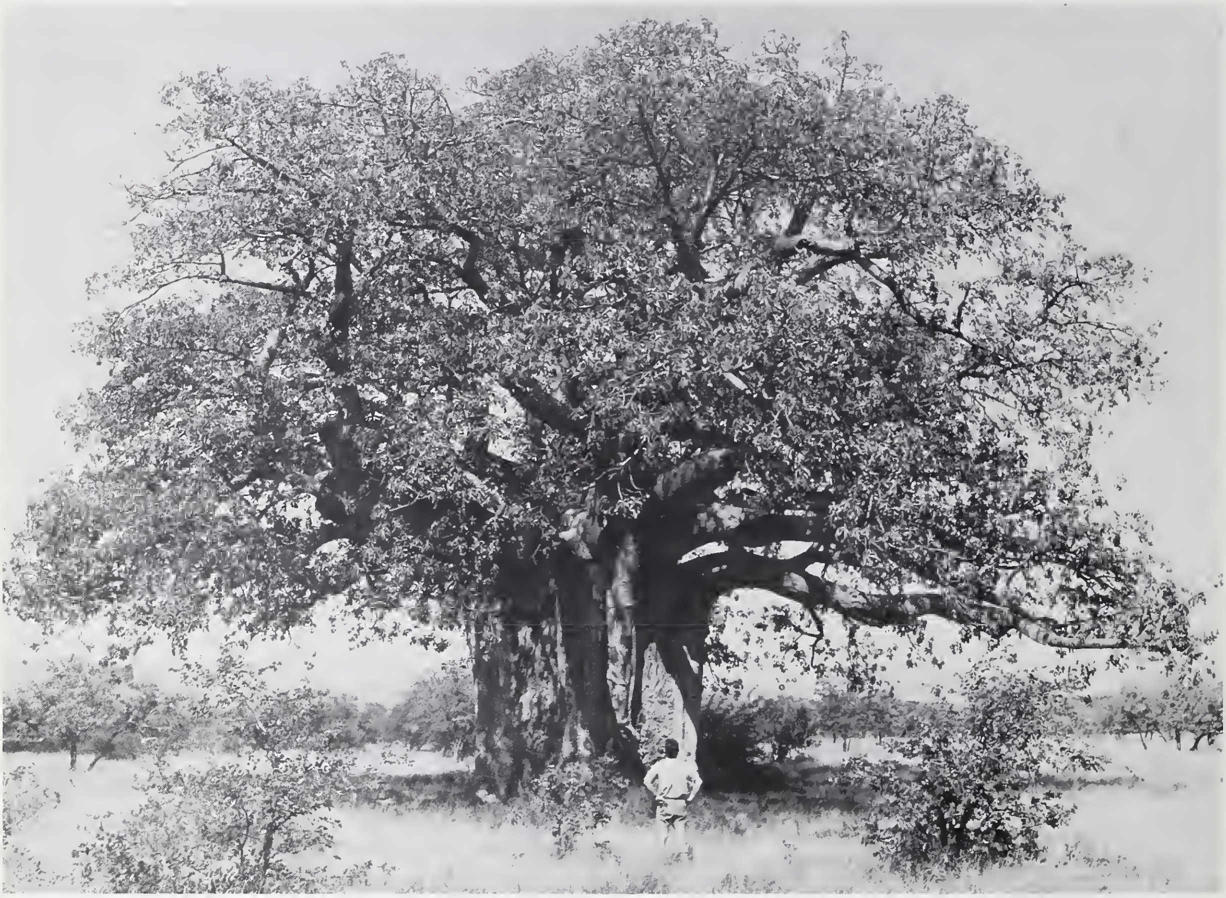
V *This nyala tree is the fourth tallest tree we have yet discovered in the Transvaal. It reaches a height of 32 metres and stands close to the entrance of the Tshipise nature reserve.*

new stems grow upward. In this way a ring of six stem-groups grew around the original trunk. The process was repeated and a further nine growth points developed to form the third ring of trunks. The tree has been calculated by the carbon-14 dating method to be more than one thousand years old. It is believed that the tree was left undisturbed through the years because long ago an African chief was buried below it. During the Anglo-Boer War many a Boer commando sought shelter below the tree where there was space for 22 wagons.

On the farm Kouwfontein in the Waterberg district is a tree very similar to the Wonderboom. It is an *Acacia hebeclada* or trassiebos which also has a spreading, multiple-stemmed growth form. It is only about six metres high, and is thus barely a tree, but it has spread over an area 61 metres wide. The circumference is 192 metres. The owner of the farm, Mr. J. P. Bronkhorst, says that this "tree" would have covered an even greater area were it not that he must keep cutting it back to prevent it engulfing his farm buildings. This trassiebos is no youngster because in 1899 Mr. Bronkhorst's father began a blacksmith's shop in its shade. Some of the original smithy equipment lies to this day among the forest of trunks.

Greatest girth

Nowhere in southern Africa can one speak of big trees without mentioning the baobab. The tallest in the Transvaal seems to be the very much defaced giant on the farm Nonsiang near Messina. This baobab is about 26 metres tall and has a girth of just over 19 metres. From Malawi we have heard of an even taller baobab which is 32.3 metres high (106 feet). Baobabs are famous for their girth, however, so perhaps the Transvaal record should go to the one with the thickest trunk. This is a baobab on the farm Platrand in the Letaba district which, although only about 15 metres tall, has a girth of 39,2 metres or 128 feet, 5 inches. It certainly is remarkable that a tree could have a trunk with a circumference more than 2½ times the height



of the entire tree. Conservation Officer D. Potgieter relates that when he measured this giant he had to get a cracking move on because there was a hive of angry bees in the trunk of the tree!

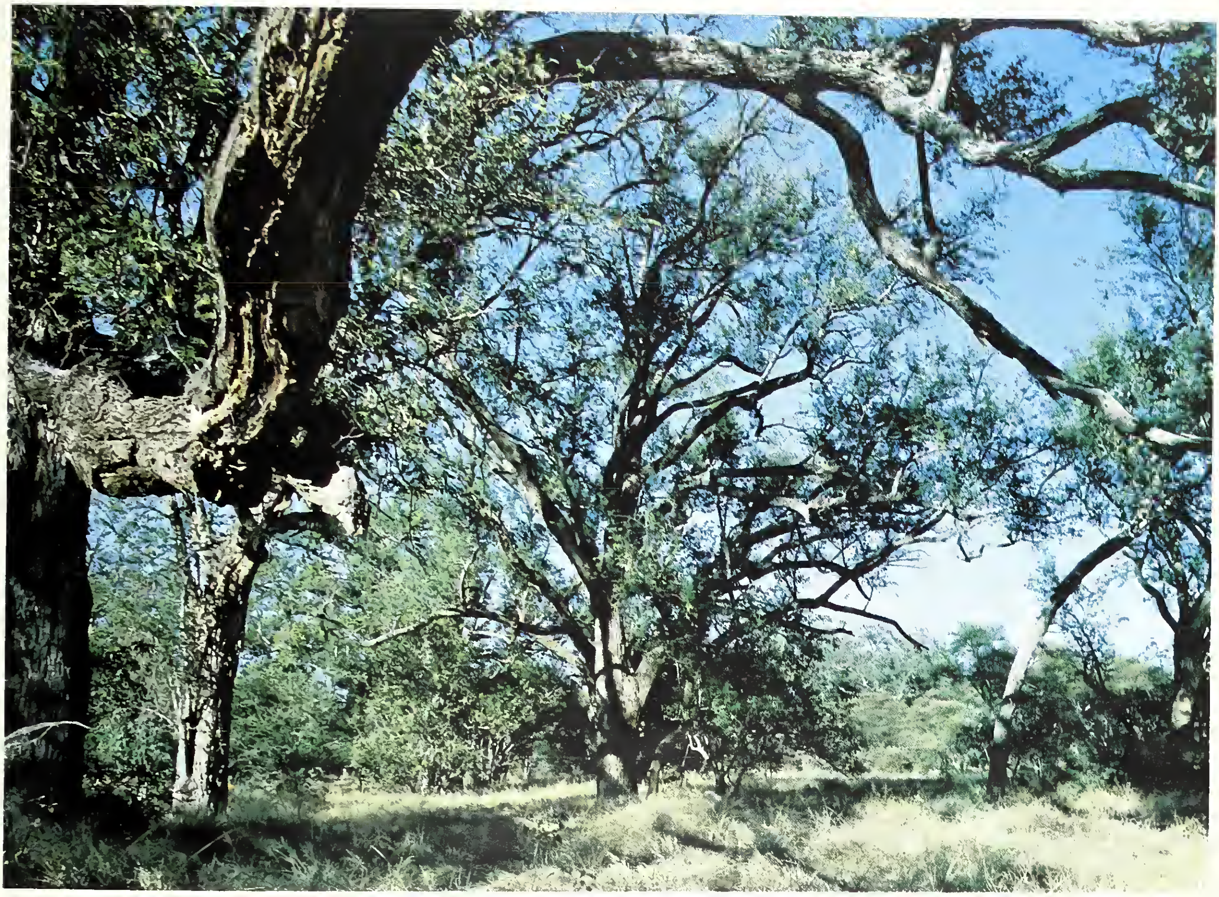
Near Leydsdorp is a baobab with an interesting history. The trunk is hollow and the story goes that it was once used as a bar from which drinks were served to passing travellers. According to Mr. "Daddy" Beeton, the station master at Gravelotte, this was not the case. He relates that the bar was actually a tin shack standing beside the tree. The hollow trunk was however used as a cool-room for whatever refreshments were served from the bar. Apparently there was an opening at the top of the trunk's hollow interior and this created a cool through-draft. Seventy years ago the opening in the side of the trunk was about a metre wide but since then it has narrowed so much that only a child can now squeeze through.

There is no doubt that many of the big trees still standing in the Transvaal are anything from 100 to 200 years old. Mr. W. J. Fourie of the farm Tambootiepan has reported that the farm was named after a large tamboti tree beside a pan and that the original title deed is dated 1875. Almost 100 years have therefore passed since the lone tambotie was first regarded as a splendid specimen.

Another tree which was notable considerably more than 100 years ago is the fig described by Robert Moffat, the missionary, as the "Inhabited Tree". When he first saw this tree, Africans lived

< *On the farm Nonsiang near Tshipise is this, the tallest of our baobabs at almost 26 metres.*

V *This grove of monkey-thorn trees on the Magalakwen River is probably the same one described by Eugène Marais in his book* 'n Paradys van Weleer.



among its branches to escape prowling lions at night, hence the name. The tree still stands and although only 11 metres high, its trunk has a girth of 6,7 metres.

On the farm Schaaphok near Potgietersrus is an ancient wild olive tree 18 metres tall and with a girth of 4,8 metres. According to a newspaper report in 1954 this tree is about 2 350 years old! Writing about the same tree, Mr. E. A. Galpin says: "This is probably the largest olive in the world and should be declared a national monument."

Ancient olive

Referring to another wild olive near Naboomspruit, Mr. Galpin goes on: "On the farm Roodepoort there is the knarled, dead trunk and branches of an ancient olive. From 1913 until about 1933 it had a surviving thread of bark the thickness of a pencil running from the ground up a branch, and this had about six leaves at the tip. Native memory - about three generations - had known it only in this condition. The bark then died but the tree is still standing. It looks far older and more knarled than the olive trees on the Mount of Olives in the Holy Land or the ancient olive in Nice planted by the Romans. All are over 2 000 years old. It looks older than even the 2 600-year-old olive outside Athens under which Socrates propounded his theories of ethics to Plato!"

Eugène Marais might have been wrong in suggesting that the largest trees in the world are in the Transvaal, but we certainly might have contenders for the world's oldest tree. ☐

surveying the bald ibis

by r. n. grafton

Each year about this time, biologists of the Transvaal Nature Conservation Division head for the highveld areas of the eastern Transvaal. They go equipped with binoculars, telescopes, climbing boots and ropes. Their quarry is the bald ibis, a strange and shy bird which most of us have never seen. The purpose of the expedition, which lasts about a week, is to find out just how many bald ibis are breeding in the Transvaal.

A true ibis

Those of us who are lucky enough to know the bald ibis often call it the wild turkey or even turkey buzzard. It is very much a true ibis, however, and is closely related to the well-known sacred ibis and the hadedah ibis. It is a much rarer bird though and ornithologists throughout the country are worried about its chances of survival. Long ago in the Cape Province the bald ibis was well known and widely distributed. Today it is hardly ever seen there and only one small breeding colony remains.

Up until 1969 we knew little or nothing about the bald ibis in the Transvaal. Two or three nesting colonies were known but the bird's status - whether its numbers were going up or down or remaining static - remained a mystery. It was for this reason that the Nature Conservation Division's ornithologists decided to conduct an annual survey during the short nesting season each spring. The plan was to count each and every bald ibis in the Transvaal and to record exactly how many nests, eggs and chicks there were in the breeding colonies.

Fifteen colonies

The first bald ibis survey was done during 1969 and the findings were most encouraging. Nests were found at 15 different localities in the south-eastern Transvaal and about 560 adult birds were counted. Certainly there were more bald ibis in the province than anyone had previously known about, but their numbers were still dangerously low. Bald ibis occur only in South Africa and Lesotho so a population of quite a few thousand is required before their future as a species can be assured.

The nesting colonies found during the first survey varied greatly in size. The biggest had 62 nests but others had fewer than 10 and there were even two with only one nest each. Altogether 226 active nests were counted. The average clutch size was close to two, so this meant that if there was little mortality, more than 400 bald ibis chicks would be added to the population. Barring accidents and tragedies, it seemed that in theory the ibis population could almost double from one nesting season to the next.

Easier said . . .

It was important to find out what was happening in practice, not just in theory. This meant that every possible nest had to be examined and that the survey had to be repeated over a number of years. Only in this way would it be possible to find out if there were an upward or downward trend in the population. This was all much easier said than done, however. The bald ibis nests were all located high up in cliffs and many were hidden in holes and crannies in the rock face.

To get to each nest was often a major operation. Where the cliffs were fairly low, long aluminium ladders were used to reach the nesting ledges. The ladder would be moved along the cliff a few feet at a time so that no nests would be missed. Most of the nesting sites were many feet above the ground, however,

Can you help?

We would be grateful for any information about the occurrence and breeding of bald ibis in the Transvaal. If you know of any bald ibis nesting sites or where the birds spend the winter, please let us know. Just send the information to the Director of Nature Conservation, Private Bag X209, Pretoria.

< *Bald ibis in flight.*

<< *On high cliffs with deep overhangs, the quickest method of counting bald ibis nests, eggs and chicks was from this suspended chair.*

V *To learn more about the habits and movements of the bald ibis, chicks were taken from the breeding colonies, ringed and then returned to their nests.*

VV *One of the few bald ibis nesting colonies in the province is in these cliffs on the highveld of the south-eastern Transvaal. Bald ibis usually nest close to a river and sometimes even behind waterfalls.*

and could only be reached with ropes from above. With the aid of two expert rock climbers, the members of the survey team soon became adept at clambering about the cliffs or abseiling off a high overhang. For added safety and to save time, a light-weight observation chair was also used, suspended on ropes and a pulley. As each nest was examined, the cliffs would ring with calls like: "One nest with two eggs. Two nests, one chick in each". On the clifftop or at the foot of the krantz, the helpers would carefully record all the facts in their notebooks.

Surplus birds

An interesting feature which has been brought out by the three surveys conducted so far is that there are usually more adult bald ibis at the breeding colonies than the number of birds actually nesting. This could perhaps be because some ibis pairs nest earlier than others and the evidence does show that the breeding season is spread over at least a few weeks. Another possibility is that the surplus birds are young ones that do not nest at the end of their first year. Some workers believe that the bald ibis in fact nests for the first time only at the end of its third year.

Whatever the reason for the large number of non-breeding birds, it is important that as many as possible of the ibis chicks do reach maturity. If mortality is high between the time a chick hatches and the completion of its first successful nesting, then the number of breeding pairs in the colony can only go down. The surveys of the last three years have shown that breeding is successful at some colonies but at others there was clear evidence of human disturbance. A tin cup on the end of a pole used for scooping eggs from nests was found. There was also a pole with a wire noose on the end for yanking chicks from their nests. Other signs of persecution were a bag of round stones for catapults, buried traps and blood stains on the rocks.

How many bald ibis survive from one breeding season to the next is not known. Once the chicks are fledged, the birds leave the nesting colonies and range

<< During the annual surveys of the breeding colonies, every possible nest was examined so that eggs and chicks could be counted.
< Many of the bald ibis nests could be reached only by experienced rock climbers.
V A bald ibis at its nest high on a cliff face.

fairly widely over the higher grassland areas of the Transvaal, the Orange Free State and Natal. What we do know is that the nesting colonies in the Transvaal have not got any bigger over the last three years. At ten colonies where accurate counts have been made each year, the number of breeding pairs has actually declined slightly. The total number of birds seen, however, has varied upward one year and down again the next.

Perhaps another set of figures from this year's breeding season will give us a clearer picture of the status of the bald ibis in the Transvaal. If the surveys can be continued in years to come, and if we can compare the results with figures from Natal and the Orange Free State, only then will we know whether or not the bald ibis is going to survive.

Cannot compete

Whatever the case, the so-called wild turkey is already a rare bird and has already virtually disappeared from our largest province. It feeds mostly in open veld on insects and cannot compete with tractors, ploughs and intensive grazing. Its habit of nesting only in cliffs and in colonies makes it vulnerable during the breeding season. The Nature Conservation Division is doing all it can to ensure the protection of the largest breeding colonies in the Transvaal. If farmers can also protect the bird and its nesting sites, we will be a long way towards ensuring that the bald ibis increases, not decreases, in number. ☐

nature notes

the covers

The front and back covers of this issue of Fauna & Flora tell, very simply, an important story. For the front cover our artist Aleida van der Merwe has portrayed a farm where the hawks and other small predators have been left in peace to get on with catching rats, insects and other animals that are a nuisance to the farmer.

On the back cover we have the same farm but a very different situation, and it's certainly not a success story. Here the farmer believes all hawks and predators do nothing but catch his chickens and sheep. He was convinced, 'It's them or me', so he shot them all and hung them on the fence. It wasn't 'them or me', it was them or a plague of rodents and other pests.

It is sadly strange the way we are so quick to eliminate all predators. It must be tied up with some sort of 'kill the killer' philosophy. With countless examples all over the world of how wrong and damaging this attitude can be, it is nothing less than ridiculous the way we cut down even the smallest predators without even stopping to think or go into the matter.

There is no doubt that some hawks, foxes, jackals and wild cats sometimes kill domestic stock but they certainly don't all do it. Trying to convince people of this is virtually impossible. It seems only personal experience, and the absence of any other scapegoat, can teach the lesson. Learning the hard way can be a humiliating experience as this true story shows. The mongooses and hawks occasionally caught the gamebirds the farmer liked to hunt. So, from dawn to dusk, he carried a shotgun and expertly blasted every animal with sharp teeth or a hooked bill off his farm. Two years later he was still busy killing from dawn to dusk. Now, though, he was using a teaspoon and a large tin of poison to eradicate his new enemy, thousands of hungry little rodents hiding in little holes in his wheat lands. Human nature is easily humbled by the might of Mother Nature.

stamps

With this issue of Fauna & Flora we have enclosed a few sheets of conservation stamps with each copy mailed to regular subscribers. These stamps, or stickers, can be stuck just about anywhere. A good place is on the back of the envelopes of the letters you write. Featured on the three different stamps are the Transvaal's provincial bird, the bokmakierie, our provincial flower, the yellow arum lily, and one of our many species of aloes. All aloes are of course protected wild flowers in the Transvaal.

If you or your friends think you can use more of these stamps, just write to us and we shall send you a few more sheets. Mark your letters Conservation Stamps and send them to: The Director, Transvaal Nature Conservation Division, Private Bag X209, Pretoria. If you want more stamps, you must write, not telephone. Any school, scout group, wildlife club or similar body asking for stamps will be sent a large quantity so that the conservation idea can be spread even further.

jock stewart

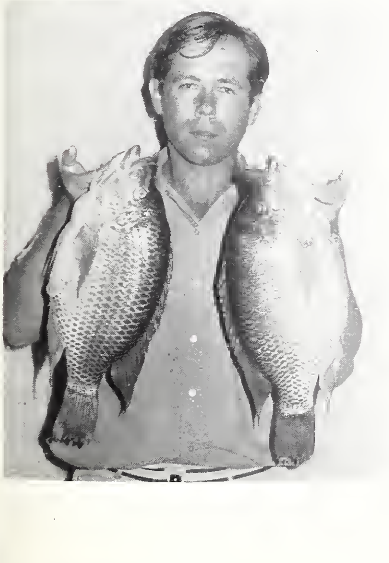
Dr. J. L. Stewart was one of the best-known personalities and fishing enthusiasts of the Tzaneen District. His death on 6th August last year was a great loss to both the angling community there and to the Transvaal Nature Conservation Division. Jock Stewart was one of our most active Honorary Conservation Officers and we could always rely on him to keep us informed on fishing matters in his area.

He was an ardent trout angler and was Secretary of the Heanertsburg Trout Association for 16 years. He was the self-appointed guardian of the Stanford and Troutwaters Lakes at Magoebaskloof and he worked ceaselessly to promote the welfare of the trout and bass within their waters. He patrolled the shores of these lakes, apprehended poachers, checked on angling licences and collected very useful catch-data.

Jock Stewart was not only a keen fisherman and conservationist but also a great character. His enthusiasm and angling knowledge will be missed not only by his fellow fishermen but also by ourselves. He did much to put fishing on the map in the Tzaneen area and we shall always be grateful to him for this and much more.

record kurpers

The proud angler in the picture is Charlie Storm of the Berea Park Angling Club with two huge blue kurpers he caught recently in Loskop Dam near Middelburg. The fish on the right turned out to be a new South African senior record with a weight of 2,694 kg and a length of 454 mm. Not to be outdone, young Johan Dippenaar of the Pretoria District Angling Club last Easter weekend pulled out an even heavier blue kurper, also from Loskop Dam. His fish weighed 2,722 kg (6 lbs) and stands as the South African junior record. For almost two years now Loskop has been producing fine catches of kurper with bags of three or four 2 kg fish being fairly commonplace.



new rhino

Way back in 1964, on the 11th of April, history was made in the Loskop Dam Nature Reserve. It was on that day that Primaria arrived, the first white rhino' to be born in the Transvaal since the species was exterminated here in 1896. Primaria's mother was one of the rhino's introduced to Loskop Dam from Natal to re-establish the species in the Transvaal.

Primaria was a female calf and we have waited patiently for her to grow to adulthood and perhaps produce a calf of her own. Recently the great day arrived after a wait of 7½ years. The rangers at Loskop were worried at first because Primaria disappeared into the thick bush in a hilly part of the reserve for two weeks. When she came out into the open again though, she had a healthy little calf with her and everyone could relax again.

Primaria's calf, Loskop's first second-generation rhino', has grown fast in the last few months. Sadly though, another rhino calf born recently in the reserve did not survive more than a day or two. Quite what happened nobody knows, but the little chap's body was found, head first, down an antbear hole. The rangers who found him about a week after the accident said the ground at the entrance to the hole had been torn up by the mother rhino' in her efforts to free the calf. When she failed, she must have paced around the hole for days because the entire area was worn smooth by her anxious feet. Even in nature it seems, accidents can strike at the cruelest times.

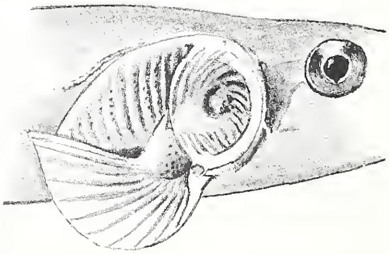
shell-ear breeds

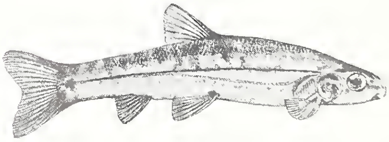
One of the rarest fish in the Transvaal has bred in ponds at the Lydenburg Fisheries Institute. It is the tiny shell-ear which is found only in the headwaters of certain tributaries of the Crocodile River near Badfontein. With such a limited distribution, there was always the danger that the entire shell-ear population could easily be wiped out by some natural catastrophe. For this reason a few adults were netted and placed in specially prepared ponds at the Lydenburg hatchery.

Last summer, fisheries biologists were pleased to find schools of minute fry in the ponds. Only with the aid of a microscope could they be positively identified as shell-ears. The aim now is to keep a few thousand of these rare fish in the hatchery ponds so that their natural habitat can be restocked if the need ever arises.

Having shell-ears easily available at Lydenburg will also mean that we may be able to discover the function of the strange shell-like structure after which the fish is named. The shell, which also looks like a type of sucker, is found on the gill-cover but only among the males. It is said that it may be used for clinging to rocks in fast flowing water. Because its growth can be induced by hormones, it more likely has some sexual function, possibly during mating.

Another strange thing about shell-ears is that although they have gills, they can also breath to some extent out of water. When their streams dry up, it is thought that they bury themselves in the mud and hibernate till the next rains. Although the shell-ear is of no interest to anglers, growing only to about 8 cm, there is no doubt it is a most unusual fish and worthy of protection.





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fauna & flora - 24

fauna & flora

TRANSVAAL NATURE
CONSERVATION DIVISON

NUMBER 24
JUNE 1973

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Back - A relative of the kaffirboom, the dwarf *Erythrina zeyheri,* in the Suikerbosrand Nature Reserve.

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Fauna & *Flora* is an occasional publication of the Transvaal Nature Conservation Division and is published in English and Afrikaans at the Division's Head Office, Church Street, Pretoria.

Subscription is free on written request to: The Director, Transvaal Nature Conservation Division, Private Bag X209, Pretoria, Transvaal, Republic of South Africa.

ISBN 0 7991 0033 1

Printed in the Republic of South Africa by Heer Printing Co. (Pty.) Ltd., Pretoria.

why conserve?

Nature conservation is something like mountain climbing. To a climber a mountain - any mountain - is a joy to behold. He will climb it because it is there and because that is what he likes doing. To a wildlife enthusiast, any wildlife is interesting and he will do what he can to conserve it.

Ask the wildlifer why he would like to see nature in all its forms conserved and his answer will probably be vague and rambling. He might even become impatient with you for asking. His answer in the final analysis, would probably boil down to that stock phrase used by the mountaineers - "because it's there."

This might not seem like a very convincing answer or argument but it is nonetheless amazing what power and energy can flow from such a simple motivation. In individual cases it might not be as strong as the force that drives a climber to the top of an impossible mountain, but taken cumulatively it is far more powerful. This is because nature, unlike mountains occurs just about everywhere, and you don't have to be an athlete to enjoy it.

Another thing about nature is that it takes on many forms. It ranges from elephants to shrews, from giant yellowwood trees to insignificant mosses. It includes birds and reptiles, frogs and fishes, insects and spiders. All the animal forms are of course dependent on vegetation and this in turn is supported by the soil. Surrounding everything is the air, invisible but vital. Then there are also sunshine and rain, rivers and oceans.

All these ingredients of nature are valuable and meaningful in their own right. Taken together, their significance is far greater than their sum. The impact of an elephant in a circus or zoo is nothing compared with an elephant in its natural habitat surrounded by the countless components of wildness. Consider too the magnitude of scenic nature, the blending of waving grass and mountain slope, of wind and water, of cliff and cloud, blue sky and blazing sun.

It would seem therefore, that the man who conserves any part of nature, be it flower, tree, insect, or antelope, is in fact contributing to the conservation of the wild kingdom as a whole. Certainly, the perpetuation of the whole is dependent on the well-being of all of nature's constituent parts. We cannot all be active conservationists though. Nor can we expect anyone or everyone to be enthusiastic over *all* the many components of nature.

Two things are certain, however. No man is justified in mocking another for being a conservationist. Secondly, there can be no person who is not awed or moved by some aspect of nature, whether he will admit it or not. Because nature is an integrated whole, you cannot sub-divide it into the parts you like and those you don't. You just have to acknowledge all of it.

Need we then seek reasons for why we conserve? Need we speak of aesthetics and economics, of scientific or recreational values? Need we say in justification that man's survival is dependent on this or that to be found in healthy air, water or soil? No, all we need say is: "I like it and want to keep it." For those who must have an answer, we should perhaps offer instead an alternative. In place of all that is natural and wonderful, offer all that is man-made. Give them nothing but concrete and steel, plastics and chemicals, engines, noise, murk and muck.

R.N.G.

anglers - your help is needed!

by r. mc c. pott

∨ *Releasing trout into a rearing cage.*
∨ ∨ *The Dullstroom Dam - a well-known trout water*

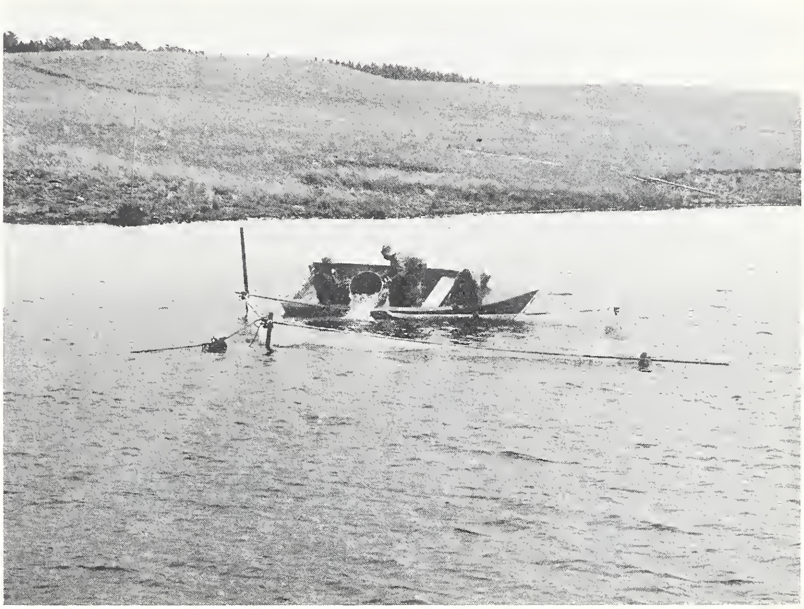
The Fisheries Section of the Transvaal Nature Conservation Division has big plans to improve angling in the province. These plans are a natural development from the Division's fisheries management programme of recent years. The stage has been reached where improved management techniques can be used to ensure the availability of more and bigger fish over a greater part of the year.

There is a big BUT and IF aspect to all this, however. The successful implementation of the plans depends to a very large extent on our fisheries biologists receiving co-operation and assistance from the province's 180 000 anglers. This is a veritable army of men, women and children and each year they catch many tons of fish of many kinds. Before we can increase the size and quality of their catch we need to know a lot of facts about what they are catching here and now.

Before going into the details of how anglers can help us put our management plans into practice, perhaps we should go back in time and take a broad look at the fisheries work already completed in the Transvaal. The Nature Conservation Division came into being in 1947, and one of the first projects was the building of a fish hatchery at Lydenburg. Major decisions in those pioneering days revolved around what species of fish to produce and whether additional exotic species needed to be imported. There were also many practical problems and difficulties to be overcome.

The first fish produced at Lydenburg were trout. The hatchery grew steadily over the years to become the largest in the southern hemisphere. Today it annually produces about 300 000 fish of seven species in addition to about a million trout ova. There is a lot more to fisheries management, however than merely producing fish in a hatchery. The fingerlings produced have to be distributed to angling waters in all parts of the Transvaal. Undesirable or problem fish species have to be controlled. The fish habitat, or environment offered by rivers and dams, has to be artificially improved.

Other work done during the 1950's



V *Books for recording the angler's catch have been placed at all public trout waters.*
> *Fishing is for everyone - especially little boys and their Dads.*

and early sixties included the establishment of two more hatcheries (at Hartbeespoort Dam and Marble Hall) and the improvement of hatchery stocks by selective breeding. Experiments were conducted to find ways of improving existing propagation methods or to discover methods of breeding fish never before reared in a hatchery. Years of research, which was finally successful in 1968, went into perfecting a technique for breeding the small-mouthed yellowfish.

For management to be successful, it has to be based on accurate facts and knowledge. Much research was therefore done on a host of subjects such as the biology and ecology of all the important angling fishes, the classification of all indigenous species found in the province, and the migration and spawning behaviour of trout in rivers. While all this information and know-how was being gathered, the Fisheries Section's staff, facilities and equipment were also being expanded. The stage was reached where the section could offer a very effective service to Transvaal anglers who had been increasing rapidly from less than 30 000 in 1952 to almost 92 000 in 1969.

The terrific demand for more angling waters, more hatchery fish and more management activities soon stretched existing resources and techniques to their maximum. In 1970 a new fisheries programme was therefore drawn up with emphasis on new approaches and methods. It was decided to begin with trout waters even though trout anglers constitute only a small percentage of all our fishermen. The reason for this was that trout angling clubs exercise close control over their members and fishing waters, and many of them keep detailed records of all catches made. These facts, together with the active co-operation offered by the trout clubs, meant that any new methods could be accurately evaluated. In other words, the necessary facts and figures would be available to show whether an experimental technique was actually working or not.

In the last two years virtually all the new measures applied to trout waters have proved successful to a greater or lesser extent. Instead of stocking fingerling trout, fish of a catchable size have been released to good effect. It was found too that better results were obtained if the fish were stocked at intervals during the season rather than all at the start. Another new technique was the use of rearing dams and cages, to grow fingerling trout to a catchable size at the site where they were required. Out-of-season winter trout fishing was also tested and stocked fish were marked by fin-clipping so that they could be recognized when later caught by anglers.

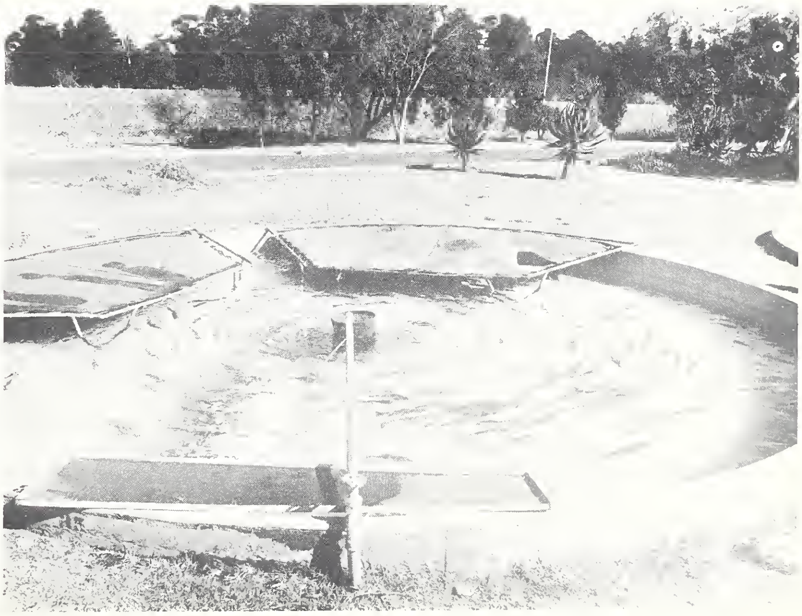
In each project every effort was made to collect as much information as possible on the habitat and what went into and came out of it. Also measured was the angling pressure applied to individual trout waters - the number of anglers multiplied by the hours spent fishing. Facts and figures of this kind are essential, not only to determine whether or not a particular management technique is successful, but also just to keep track of what is happening in any river or dam that is fished regularly.

If the successful management techniques applied experimentally to certain trout waters are to be extended to other waters and other fish species throughout the province, a mountain of information will be required. The Nature Conservation Division's fishery biologists can obviously collect only a fraction of the data required - the rest will come, hopefully, from the anglers themselves. This means that better fishing, bigger fish and more of them depend largely on the interest and enthusiasm of the fisherman, whether he catches 5 or 100 fish in a season.

To create the machinery necessary the collection of catch data, the Nature for Conservation Division is working through the Anglers Co-ordinating Committee which represents the angling unions and clubs of the Transvaal. The clubs will be registered with the Division and will be supplied with catch-recording forms which will be placed at the angling waters they control. All the fisherman will have to do is fill in a few simple facts about the number, species and size of fish he catches. Each month the clubs will send completed forms in to the Division for analysis by its biologists who are planning to use a computor to store and interpret the information.

Obviously, the more that is known about the nature and quality of fishing in the waters of any one club, the more can be done to safeguard and improve that club's fishing. It is therefore up to the consumer, the angler, to help us so that we can help him and his sport. The whole programme will naturally take time to become established and show results. However, the sooner we all get started, and the more assistance we can receive from anglers, the sooner we will be able to see (and eat) the proof of the pudding. ☐

V *A trout-rearing pond in which fish are grown to a catchable size before being released into nearby dams.*



V V *Large trout ready for release for put-and-take fishing in winter.*

let them be!

by r. n. grafton

Ask any Nature Conservation Officer what part of his job is the most difficult or heartbreaking. As likely as not his answer will be: "Taking away a wild-animal pet from someone who doesn't have a permit to keep it". Should you suggest to him that he could perhaps turn a blind eye to this type of offence, his response might well be: "What? And have all our wildlife living as lonely prisoners in city suburbs instead of free in the veld where they belong?"

You might think the conservation officer is exaggerating, and perhaps he is. But his attitude clearly illustrates his dilemma. There is no doubt that there are many species of mammal, bird and reptile that could quickly be brought to extinction by pet collectors. The removal of a wild animal from its natural habitat means the loss to Nature, not only of that animal, but of all its future progeny that would have been born if it had been left undisturbed.

Actually, whether a captive animal is able to survive and even breed is largely beside the point. What is important is that it must be born, live and die in its own community, not in some remote city. Think of that tortoise you found one day in the veld and took home. Even if he was dying of old age, the tortoise was still a vital part of his natural home. Perhaps he was destined to be caught the next day by a black eagle for feeding to her chicks. That one meal could have meant the difference between life and starvation for these rare and magnificent birds.

Maybe the tortoise would instead have fallen prey to a jackal which, the following month, would have been feeding on the countless rats that were troubling the farmer. Even if the tortoise just died and rotted away, the nutrients from his body would be returned to the soil. The soil in turn feeds the grass that is eaten by the little steenbok, and by countless other creatures.

"But", you say, "what about the wild animal or bird that is found cold and weak, sick or deserted. Must it too be left alone to die a cruel death?" The answer, for many reasons, is yes - it must be

< *This new-born roan calf just wants to be left alone - not taken home by anyone.*

<< *Zookeepers do what they can to care for unwanted wild pets but would prefer the animals to have been left where they belong.*

V *What would you feed this young aardwolf to keep him alive and healthy?*

V V *A ground squirrel might make a cute pet but he bites and will burrow out of his cage.*

left alone. Over and over again, our Nature Conservation Officers have heard stories of how persons have saved animals from certain death by starvation or exposure. In almost every case quite the opposite was true. The animal was in fact taken from a natural existence and condemned either to certain death or eternal imprisonment.

This might be hard to believe or understand, especially when all your natural emotions tell you otherwise. Like when you look down on a damp, wide-eyed, quivering antelope lamb lying in the grass. It is true though, because nine times out of ten there was absolutely nothing wrong with the poor animal you found "sick, starving and deserted." If you had just left it alone it would soon have resumed its normal pattern of living. Its mother, hiding nearby, would have come to feed it. Or it would have quickly dried out in the sun and stopped shivering. Or it would have bounded away as soon as you went out of sight.

The next time you find an apparently helpless animal in the veld, or even in your back garden, don't pick it up immediately. First stop and think. Look around and try to assess the situation. Perhaps move off a short distance and watch quietly for ten or fifteen minutes. If you decide there is unquestionable evidence that the animal needs your help only then might you pick it up and examine it.

Having done this, put the animal down again because you still have a lot of decisions to make. Ask yourself these questions. Do you know what species of animal it is? Do you know what it eats and what its living requirements are? Do you have a really suitable cage for it? Are you prepared to pay a vet to attend to it? Will your pet dog or cat kill it? Will your children be cruel or kind to it? Are you prepared and able to fulfil *all* the obligations of a parent or guardian towards this animal?

There are many more questions that need answering. If you have any doubt on any one of them, then you are morally bound to leave the animal where you found it. Only facts should influence

your thinking, not emotions. This is more easily said than done. The main thing to remember is that Mother Nature is far wiser than you or I and that births and deaths are an everyday occurrence among her children.

Of course, not all wild animals that end up as pets were "saved" by well-meaning humans. Many were just plain stolen from Nature. They were stolen too from you and me and from anyone who prefers to see wildlife where it belongs, in the veld. A cardboard box or a rickety cage in the back yard is no place for any wild creature. And yet daily there are persons who "bring 'em back alive". Why they do it I don't know. Usually they are breaking the law and they are stealing that which belongs to everyone. They are being cruel and selfish, and on top of it all they will almost certainly kill the animals through ignorance or neglect.

There is hardly an animal species that someone won't want to take home as a pet, even though he has not the faintest idea of how to care for it. The commonest candidates for enforced captivity are crows, doves, monkeys, baboons, bush-babies, tortoises and any small antelope such as a steenbok. Snakes, the smaller carnivores, any bird and even large animals such as the kudu, are all dragged off whenever the opportunity arises. Some people, perhaps out of selfish bravado, will go to any lengths to keep even crocodiles, hyaenas, leopards, cheetahs and lions.

What usually happens is that a person comes across some wild animal by chance. Impulsively he corners it, grabs it and shoves it in a box or a bag. He might stop only then to think about what he's going to do with his captive. More likely he will only start thinking when he gets bitten, scratched or kicked, or perhaps when the animal keeps him awake at night or when it looks like its about to die on him. When the troubles start, the animal's "owner" begins looking for a place to dump it. Good dumping grounds are: over the back fence, the local zoo or wildlife authority, or that chap down the road who "knows" animals.

V *Feeding wild orphans might look fun but it is hard work and usually ends in failure.*

V V *The vervet monkey is one of the commonest wild-animal pets. It will probably give you the most trouble too.*

Having disposed of his problem child, our hero feels very virtuous. Just think of all the trouble he went to! Of course if he is charged by a conservation officer for keeping a wild animal in captivity he becomes very indignant. He will have plenty of sympathizers - the whole neighbourhood in fact, and perhaps even his town councillor and newspaper editor. But does anyone stop to think about what happened to the real victim - the innocent animal that was stolen and then shunted from pillar to post or just dumped.

This is where the tragedy and waste lie because usually the beast or bird is dumped either miles from any suitable habitat or just when it is on the point of death through neglect. People on holiday are often the worst culprits. They find some wild animal in the lowveld and expect it to live through the highveld winter. Or they catch it in open grassveld and release it in a wattle plantation.

Something similar happened to a very much pregnant hedgehog that was "found on the road" near Johannesburg. Its captors, full of joy at the prospect of a holiday by the sea, took the bewildered hedgehog all the way to the coast. Somewhere along the road they must have thought that their prickley pet did not belong in a holiday hotel or perhaps they shrunk at the thought of having to catch hundreds of insects to feed it. The outcome was that they dumped it on the local conservation authorities. Little did the hedgehog know that bright highveld morning that it was to go on a holiday, from which it would never return, to some strange place 640 kilometres from home and 250 kilometres from the nearest of its kind!

Even if you successfully raise a wild animal as a pet and then take it back to the exact place where you found it, its chances of survival in the wild are very slender. It has not had the training and lacks the experience needed to stay alive in what is now a totally strange environment. Sad as it may be, the best way to dispose of such a pet is often to shoot it in the head. At least it would die quickly and its months of painful captivity would be ended.

Many explanations are offered to justify having taken an animal from the wild. Some such pets are given their freedom - but in the back yard. It is said they can come and go as they please but the truth is that they are dependent on humans and not free at all. An even greater truth is that they are not even wild animals any more. They are just living things, vegetables in fact. This is the crux of the matter, the reason why the Transvaal's Nature Conservation Ordinance prohibits the keeping in captivity of the majority of game and birds other than by special permit.

Apart from those persons who keep the odd wild animal pet and those who try to save those animals they believe need help, there are others who go in for robbing Nature in a big way. They are the collectors and dealers in wildlife, most of whom have not the slightest understanding or appreciation of the great outdoors and its animal kingdom. The flash of crimson from a loerie's wings against the rich green of a forest means nothing to them. The swift and unerring flight of the peregrine or lanner falcon is merely a physical attribute to be subdued. The steenbok, pausing all ears and eyes before dashing off into the golden veld, is just a little buck that is difficult to catch. The leopard, valiantly battling tremendous odds for mere survival, is but another spotted skin - living gold to be exchanged for paper currency.

To a collector of wild things, possession means everything. To a dealer, the price in the market place is the driving force. To both, the beauty of wild freedom and the throb of life in a threatened species are unknown, uncared for nothings. To counter such vulgarity and avarice, there are strict regulations, dedicated law enforcement men and even international treaties. With perseverance and the help of all who care, this is a battle which can and must be won.

A war is never won, however, until the last skirmish is fought and the last captive released. This is why the keeping of wild pets is so important an issue in nature conservation. Perhaps your mind (or was it conscience?) has already flitted back to recall the creatures that you once brought in from the veld. Do you still have thoughts of justifying your act or of making excuses?

If you answer yes, then pause a while. Take the number of wild animals you have removed from their natural habitat and multiply it by the number of people in your town, district, province or country. Try to compare the human population of your area with the wildlife population. Ask yourself what chance has any animal, whether mammal, bird, fish, reptile or amphibian that is taken from its rightful place, of ever returning wild to Nature. Perhaps now you will answer no; indeed there is no excuse and no justification.

We are all human; we are all attracted, at least to some extent, by wild things. If they are to remain wild, to remain alive, we must force ourselves to stand back and let them be. ☐

little forager of the veld - the suricate

by n. h. g. jacobsen

There are some 36 species of mongoose in all Africa and Asia. Some have been introduced to parts of the New World. Perhaps the most interesting and unique mongoose is our own suricate which is a true mongoose although it is the only species in its genus.

The suricate, or stokstertmeerkat as it is more commonly known, is widely distributed in southern Africa. It occurs in the highveld regions of the southern Transvaal, in the Orange Free State, Kalahari, Cape Province, South West Africa and even in the desert regions of south-western Angola. It is probably most common in the open veld of the Orange Free State.

The suricate is well adapted to living in such environments and is frequently seen in large colonies numbering up to 30 individuals, sitting or standing near their burrows. When standing erect, the tail is held out stiffly at an angle to the body and acts as a prop or third leg holding the animal upright. The suricate frequently leans back against the supporting tail so that the body is at an angle to the vertical and only the heels of the hind feet touch the ground.

Suricates are extremely efficient burrowers and dig extensive underground homes in the veld. The entrance holes usually lead to inter-connected chambers which may be as much as 1,5 metres underground. The long claws on the forefeet are an adaptation for digging. The animal straddles the hole with its hind feet while using the fore-feet for burrowing. Both fore-feet may be used at the same time or the left and right foot alternately. Banked up soil is pushed backwards with the help of the hind feet and then the suricate backs out of the hole and vigorously rakes the loose soil further away from the entrance. At times the animal may dig upside down in the burrow in order to remove some stubborn obstacle such as a stone. Roots may be chewed through.

Suricates possess very acute eyesight and an exceptional sense of smell. Hearing is not as well developed as in other mongoose species; the external ear is reduced in size probably due to the burrowing habit of the species. Acute eyesight is essential to these animals which usually live in flat, open veld where they are able to see long distances. Their main enemies are of course the birds of prey and these can be spotted when visible as minute specks in the sky. Not any flying or gliding bird will evoke a reaction of alarm because the suricate is able to distinguish between harmful and harmless bird species in flight.

The alarm call is a distinctive "waauk" from the first animal to see the approaching danger. This causes the other members of the colony to look first at the alarmed animal and then towards the danger. If the enemy stays reasonably far away the animals will sit or lie watching until it is out of sight. Young animals tend to be more nervous than the older experienced ones. If the danger approaches too closely, the entire colony will suddenly dash to safety underground.

The sense of smell is well developed because of the animal's feeding habits and preferences. Suricates are frequently seen moving about in grassveld and open areas with their noses close to the ground, smelling for any likely food both above and below ground. They are not fast-moving animals and thus feed largely on slow-moving prey. If buried food is scented the animal digs rapidly with its fore-feet, pausing often to scent so as to determine in which direction the food lies. Suricates feed extensively on beetles and their larvae which occur underground. Other important food items are harvester termites, other insects, millipedes, centipedes, scorpions and many vertebrates such as mice, rats, frogs, lizards, snakes and the young of ground nesting birds. They are, however, predominantly insectivorous and are thus a considerable asset to any farmer.

Their method of dealing with scorpions is of interest. They are not particularly worried by the sting and at first shuffle the scorpion about with rapid left, right, left movements of the fore-feet. They soon kill it with several rapid bites, after which it is eaten in a leisurely fashion. Snakes do not, it seems, form a large part of the diet because the larger ones are too powerful and swift for the suricate. Smaller snakes are, however, eaten readily and are usually killed by a bite behind the head. As is well known, suricates possess some immunity to snake venom but a large dose will kill them although they take a long time to die. Most large prey is eaten from the head backwards and in some instances only the head may be eaten.

Suricates usually remain within close range of their burrows or other shelter into which they dart at the first sign of danger. They often sit erect or stand on their hind legs at the entrance to their burrows in order to obtain a better view over the top of the grass. Their enemies are many - chiefly diurnal birds of prey, some of the larger snakes, dogs and especially man. Unfortunately owing to their social habits suricates are more prone to the spreading of rabies than most other animals and also appear to possess some degree of resistance to the disease. This brings them into conflict with man's interests and large numbers are destroyed annually during anti-rabies campaigns, to which may be added the numbers shot for fun by farmers and other people. They are courageous little animals and tame ones have been known to intimidate large dogs by their very determined and threatening attitude which includes rushing at the dog while uttering an explosive spit with an open mouth. Pet suricates have been known to develop an owner fixation; only the owner is permitted to handle the animal. Strangers, particularly of the same sex as the animal, may be attacked and bitten. On account of their great value in helping to keep down insect pests, it would be to a farmer's benefit to maintain colonies of suricates on his farm when not in a prescribed rabies area. Because of the rabies danger, people should refrain from capturing seemingly tame individuals and in general it is advisable to leave these animals wandering in the veld where they belong.

Suricates are sensitive to cold. Early in the morning they usually sun themselves

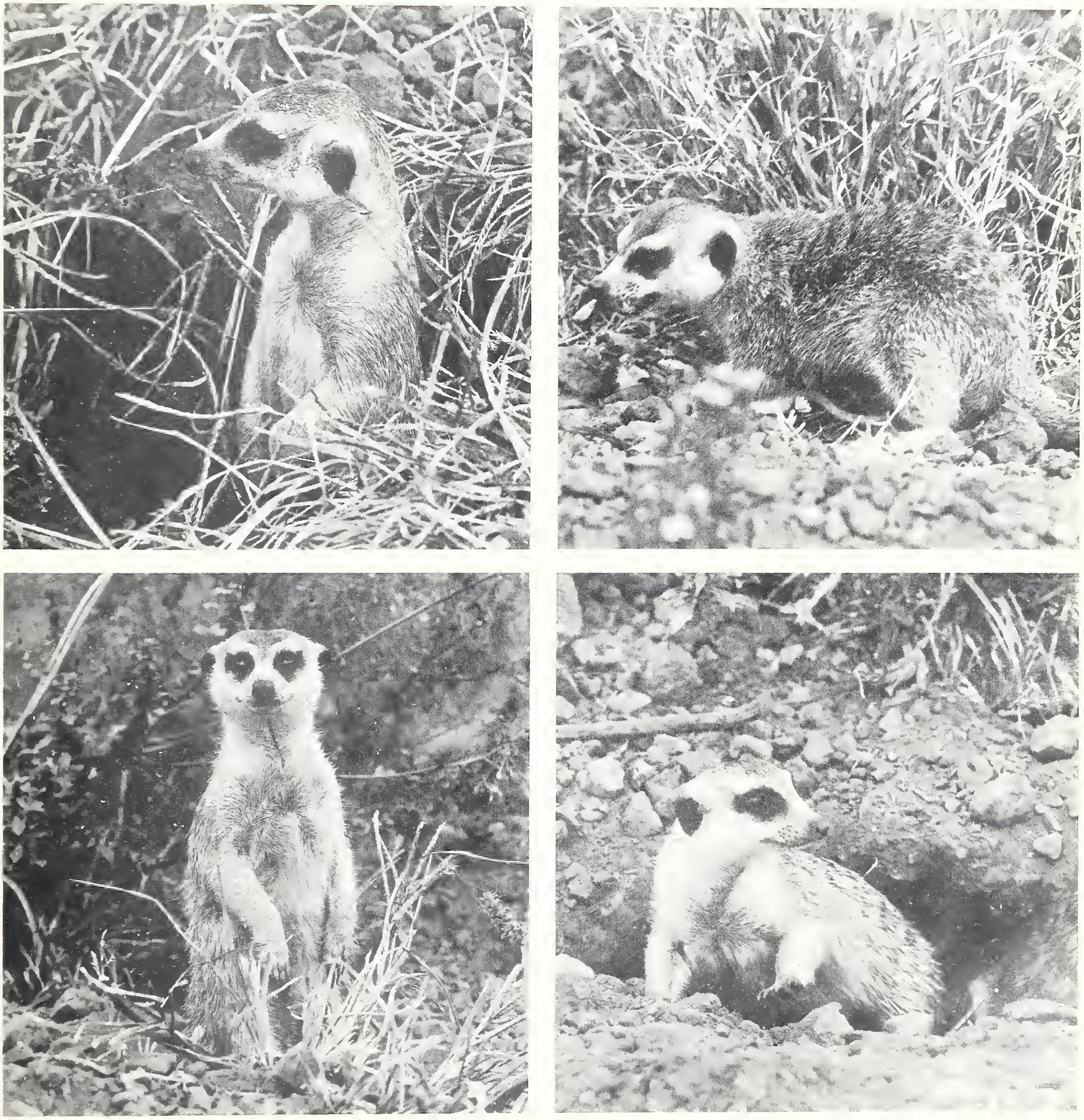
by sitting or standing upright, thus exposing their sparsely haired bellies to the direct rays of the sun. They also have the ability of looking straight at the sun. When the animals are cold they raise their fur at right angles to the body to allow the entry of warm air. On very cold mornings the animals emerge from their burrows fairly late. On overcast, cold and rainy days they may not emerge at all, staying rather in their warm burrows. During extreme heat, such as at noon, they retire underground or lie in some surface shade, frequently on their backs to allow for easier heat regulation through the thinly haired area of the belly and chest.

Suricates are extremely sociable animals and may often be seen sprawled one on top of the other. At such times social grooming, whereby each animal fleas another, takes place. Suricates, in particular the juvenile and immature animals, are fond of playing. Such play is most commonly a wrestling game in which the contestants stand on their hind feet while embracing each other with the fore-feet and sparring with open mouths. They then sway about from side to side with one animal attempting to topple the other so as to get on top. Playful bites are taken at anything; even Papa's tail is a handy target at times. If danger threatens, everyone rushes for the burrow from which inquisitive faces soon peer out to locate the source of alarm. After a while the animals slowly emerge and look around. Occasionally a bold member of the colony will move in the direction of the disturbance with a rocking horse type of motion in which both hind and fore-legs are held stiff. The animal seesaws almost in one spot but with a slow foreward movement. Throughout this performance the back is arched and the tail is held rigidly vertical.

As with most animals living in our relatively harsh environment, the young are born in summer. Mating, which occurs in spring, is followed by a two-month gestation period which is surprisingly long for so small an animal. An adult suricate generally weighs less than one kilogram. There may be as many as five young at birth but the survival rate appears to be low. The young are born in the burrow and are blind at birth. They have only a sparse layer of fine hair and in fact look almost naked and bald. They are virtually helpless at first but development is rapid and by fourteen days they can see. The fur grows rapidly and the young soon begin to resemble miniature adults. They are active at this stage and play frequently. On warm days the female may carry the young, one by one, to the entrance of the burrow to sun.

Both the male and female care for the young. The female teaches her young to capture food by bringing them live prey which they take from her mouth and then kill themselves. Later the youngsters will follow their parents about the veld and snatch up any food the adults may find. Once the young start fending for themselves, the parents become less generous and themselves quickly eat food they find. Suricates become sexually mature at approximately one year of age but fully mature growth is achieved only several months later.

In conclusion we would like to make a plea for the preservation of the lovable suricate or stokstertmeerkat. This interesting forager of the veld can be such an asset to any farmer due to the enormous numbers of harmful insects they consume daily. They have a very real aesthetic value too, for few people can forget the sight of these cute little animals standing upright at the entrance to their burrows looking out inquisitively over a sea of grass. □



suikerbosrand

by s. s. du plessis

> *"The Witwatersrand of the future will be a crowded world of express highways, automated factories and intensive urban living. It may become a world without a soul if the links with our natural environment are severed because those living today have not thought of the future of those of tomorrow."*
>
> J. F. Oberholzer

Our city-planning of the past would seem to have largely ignored the need for public open spaces in and around our cities. City-dwellers need more than a mere municipal park if they are really to escape the urban environment.

The vast urban complex of the Witwatersrand was an accomplished fact long before there appeared on the scene two men who knew that something should and could be done. They were Mr. J. F. Oberholzer, M.P.C., then Mayor of Johannesburg, and Mr. T. C. Robertson, the former Director of the National Veld Trust. They saw that the dream of a public natural area could be brought to reality in the hills of the Suikerbosrand near Heidelberg and so they set to work to convince the authorities that it could be done. Their proposal was that the entire Suikerbosrand range be purchased and developed as a recreation area and nature reserve for the people of the Witwatersrand.

Enthusiasm

The Transvaal Executive Committee undertook to implement the plan. There was so much enthusiasm from all quarters that 19 municipalities on the Rand together pledged an annual amount of almost R100 000 for 30 years as their contribution towards the costs of developing the Suikerbosrand. The Town Council of Heidelberg gave the well-known Heidelberg Kloof area. The enthusiasm was contagious, due possibly to the effect on the decision-makers of the beauty of the Karee Kloof or the sight of a herd of 500 blesbok on the high ridges of the Suikerbosrand.

< Vaal rhebuck still roam the high hills in the Suikerbosrand reserve.

<< A high plateau, rolling hills and forested kloofs are the main features of the Suikerbosrand.

In the planning of the reserve's boundaries every effort was made to exclude valuable agricultural land. The area consists therefore of high hills, kloofs, valleys and ridges which have a character all of their own and which are in sharp contrast to the surrounding highveld plains. The reserve covers an area of 11 000 hectares and was purchased for R3 200 000.

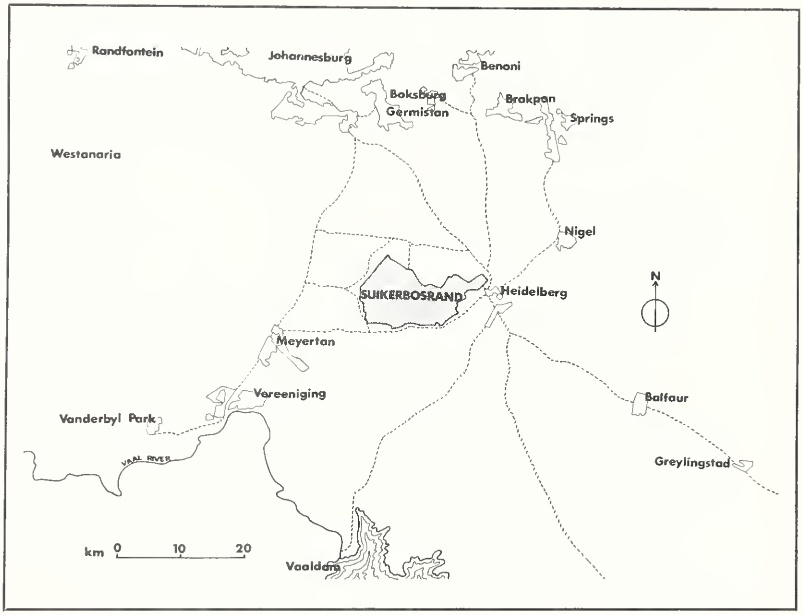
Easy reach

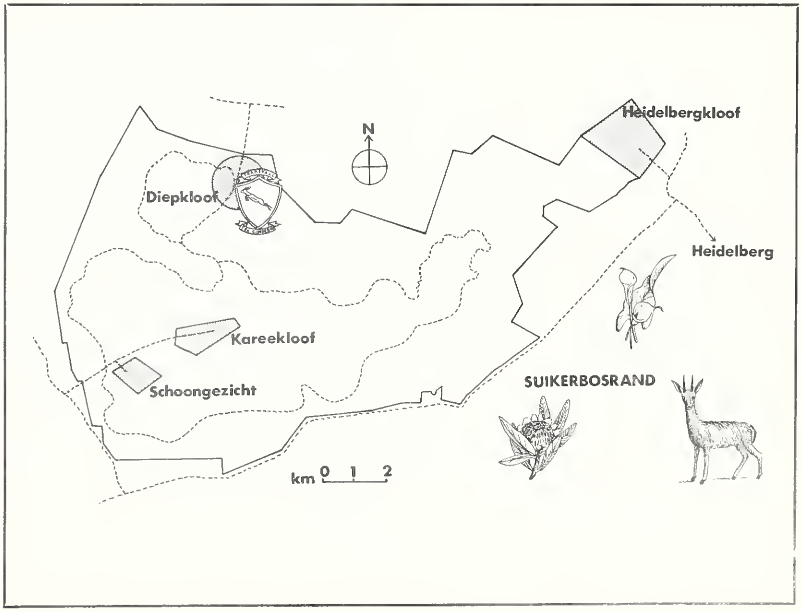
How should one develop so expensive and valuable an area? This question was not easily answered due to the paucity of knowledge on the true nature and direction of outdoor recreation. We based our planning, therefore, on certain accepted facts and principles. Because the Suikerbosrand is located within easy reach of the entire Witwatersrand, it was obvious that the nature reserve would be used largely for short-term visits - a day or a weekend. It was also clear that the area would be ideal for educational outings for the many nearby schools, colleges, universities and youth groups.

Another important consideration during the planning stages was the nature of the role that should be played by the Province in the general field of outdoor recreation. It was decided that at Suikerbosrand we should create something not within the capabilities of the private sector or local authorities - something which would supplement that which they have already provided or will in the future. The Suikerbosrand should not offer commercial facilities because these are preferably the function of private enterprise. What the reserve should offer is opportunities for city-dwellers, particularly those living in flats, to escape from the urban environment into unspoiled nature, here to seek that spiritual stimulation which is to be found nowhere else.

Wide variety

It is perhaps fortunate that people differ widely in the type of outdoor recreation that they prefer. In the United





V *Black wildebeest and five other highveld game species have been re-introduced to the reserve.*
V V *The highly adaptable eland once again roams the highveld near Heidelberg.*

States it has been found that the most popular activities are the simplest ones - walking, swimming, picnicking, camping and fishing. At Suikerbosrand every effort will be made to supply a wide variety of outdoor activities and for this purpose the reserve has been divided into a number of areas according to an international classification of recreation classes or types. Because each area may be used only for designated activities, haphazard development is prevented and all future planning must follow the approved overall plan.

Policy outline

On the basis of the above concepts and principles, the following policy outline has been decided upon for Suikerbosrand:

- In the development and management of the reserve, preference will be given to the recreational requirements of day-visitors from the surrounding towns.

- In so far as the area's resources permit it, a variety of recreational activities ranging from low to high density will be provided. Development and management will be strictly according to the usage classification plan.

- All major development will be restricted to the margins of the reserve to ensure that the central area will remain essentially undisturbed.

- Visitor-access to the central area will be in such a way that the reserve's character will not be spoiled and, if necessary, the number of daily visitors will be limited.

- The cultural and educational aspects of outdoor recreation will receive particular attention.

Mammoth task

The land bought to create the Suikerbosrand reserve belonged originally to some 60 owners so it was a mammoth

V *This pioneer's farm house built about 85 years ago, will be restored as a historical museum.*

V V *Scattered among the Suikerbosrand hills are many stone ruins that were occupied 200 to 300 years ago.*

MARY GUNN
NATIONAL BOTAN... ...ITUTE
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task to clear away the old buildings, fences and farmyard rubble. The major part of the area was then enclosed with a game-proof fence and the first animals were released in 1971. Only those game species which originally occurred in the area have been re-introduced - blesbok, springbok, black wildebeest, red hartebeest, zebra and eland. Grey duiker and steenbuck occur naturally on the reserve and everyone was delighted to find that vaal rhebuck and even a few mountain reedbuck still survive there. The total number of game animals now on the reserve is about 1 300.

Two public resorts are planned for the reserve, one in the Heidelberg Kloof and the other at Schoongezicht on the western boundary. Another area, Kareekloof, will be developed as a low density camping and picnicking area. At Diepkloof on the northern boundary the Nature Conservation Division will build an information centre, laboratories and offices as well as a camp site for organised youth groups. From Diepkloof there will be a circular bus route through the reserve for conducted tours.

Small groups

For those who are fit there will be a network of nature trails with huts for over-night stops. Only small groups (a maximum of 10 persons) will be allowed on the nature trails and we hope that families will make good use of them.

On the slopes of the Suikerbosrand there are many old stone ruins that were inhabited between 1650 and 1880. Once they have been investigated by archeologists, certain of the ruins will be restored and developed as veld museums. A nineteenth century farmhouse will also be restored and fitted out as a museum.

At Suikerbosrand a dream is gradually being realized. A part of the Transvaal highveld is being restored to its earlier natural glory. We hope that the reserve will give city-dwellers and others the opportunity to get to know nature the way it used to be. □

nature notes

what's in a name?

There are times and occasions when names are not all that important. However, if you are addressing a letter or trying to find a number in a telephone directory, then a name can be critical. In other situations the use of an incorrect name might be merely irritating or embarassing.

We here in the Transvaal Nature Conservation Division are quite accustomed to a host of different names being used in referring to us. Naturally we would prefer to be known by just one name, and the correct one at that, but we are more concerned about any difficulty the public might have in finding or contacting us.

Long ago we used to be the Fauna and Flora Section of the Transvaal Provincial Administration so many people still call us Fauna and Flora. Others call us the Game Department or the Nature Conservation Department/Board/Branch. We are still a part of the provincial administration of course and if you call us the Transvaal Nature Conservation Division you will be right on target. If you need to write to our head office then send your letter to: The Director of Nature Conservation, Private Bag X209, Pretoria.

If you want to 'phone our head quarters then first find the Government Departments section at the end of the Pretoria directory. Go through this alphabetically to P for Provincial Administration. Again work down alphabetically to N for Nature Conservation - that's us. There are 26 numbers listed so make sure you choose the appropriate one! To find the telephone numbers of our offices in smaller towns and country areas look under Provincial Administration for Nature Conservation. If the 'phone book lists nothing under your town or exchange, look under the names of surrounding towns.

who's who?

If you read the piece above about our name, you probably know how to contact us. But do you know whether we, the Transvaal Nature Conservation Division, are the right people to handle your query or request?

If you want to book a visit to the Kruger National Park (or any other *national* park), don't 'phone us, 'phone the National Parks Board at 44-1194 Pretoria (P.O. Box 787). Similarly, if you want to make a booking to stay at any of the Public Resort Restcamps in the Transvaal, you should contact the resorts themselves - not us. These resorts, including the camps in our Loskop, Hans Merensky, Suikerbosrand and Blyderivierspoort reserves, are controlled and operated by the Public Resorts Board whose head office is in Pretoria ('phone 2-4906, P.O. Box 3046).

You can also save yourself time and bother by remembering that each province has its own nature conservation authority. This means that each province handles conservation matters relating only to its own area. In the Transvaal you deal with us and in Natal its the Natal Parks Board (The Director, P.O. Box 662, Pietermaritzburg). In the other two provinces write to the Director of Nature Conservation at either P.O. Box 659, Cape Town (Cape) or P.O. Box 512, Bloemfontein (O.F.S.). In South West Africa the address is The Director of Nature Conservation and Tourism, Private Bag X13186, Windhoek.

gert olivier

Gert Olivier, known to one and all as Oom Gert, has a remarkable record of service in the Transvaal Nature Conservation Division. He has been with us for 25 of our 26 years and although at 67 he is two years past retiring age, he is still going strong.

Oom Gert spent 16 years with the Department of Water Affairs before joining what was then the Fauna and Flora Section of the Transvaal Provincial Administration. His first task was the construction of the fish hatchery facilities at the Provincial Fisheries Institute near Lydenburg. Oom Gert spent five years working on this hatchery which was to become the largest in the southern hemisphere with more than 100 fish-rearing ponds.

When the time came in 1953 to build the fisheries research station at Marble Hall, there was only one man for the job - Gert Olivier. Under extremely difficult conditions he carved out of the virgin bushveld a magnificent layout of dams, ponds and canals. After four years the Marble Hall station was complete and Oom Gert went back to Lydenburg. Three years later he was transferred to the Hartbeespoort hatchery which he operated until 1971 - the year he was due to retire.

It was just at this time, however, that the need arose for yet another hatchery. Plans had been drawn up for a large and modern fisheries station at De Kuilen near Lydenburg. Oom Gert was on pension but he readily agreed to take on the job of supervising construction at De Kuilen. Now, 18 months later, the site is taking definite shape and promises to be the most up-to-date and productive hatchery in the country. And Oom Gert Olivier is building it!

Gert Olivier.

A record 21,44 kg yellowfish.

yellowfish

The largemouth yellowfish is one of our angling fishes that has recently generated considerable interest in both angling and scientific circles. The fisherman's interest is understandable as the accompanying photograph of Mr Manie Barnard's record 21,44 kg largemouth yellow illustrates. The fisheries biologist's interest is unfortunately due to the threatened status of this species.

The distribution of the largemouth is limited to the Orange-Vaal river-system, and recent research has shown that its numbers are in danger of dwindling to eventual extinction. Two of the causes of the decline are water pollution and the barrier-effect of dams which prevent upstream movements of the fish for breeding. Another important factor is that the female largemouth breeds for the first time only in the eighth year of life. This means that any female seven years or younger that is removed by angling will never have had an opportunity to contribute to the population.

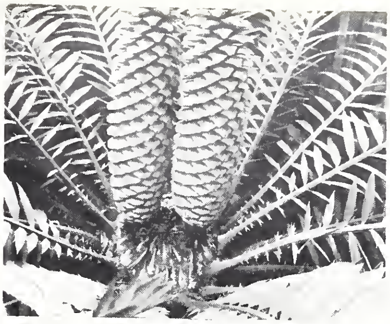
In recent years the Fisheries Section of the Transvaal Nature Conservation Division has been very successful in artificially propagating the smallmouth yellowfish at the Lydenburg hatchery. Every effort is now being made with the largemouth so that hatchery fish can be stocked in rivers where this important, indigenous fish has been finding it impossible to breed successfully.

63 550 cycads

Since cycads were declared Specially Protected Plants in the Transvaal in September 1971, there has been a flood of applications for permits to possess these rare plants. Up to mid-March this year the Nature Conservation Division had issued 7 756 permits for 63 550 cycad plants. This gives an average of just over 8 plants per permit holder.

These figures clearly justify the introduction of the new permit requirements. One is prompted to speculate whether there are now perhaps more cycads in city gardens (where they seldom reproduce) than there are left growing naturally in the veld. The wastage of cycads that did not survive transplanting over the years must have been great. If 63 550 plants survived, how many died?

There are other eye-opening facts emerging from the permit statistics. Among the plants registered and identified so far, there are no less than 27 separate species. Considering that there are only 11 cycad species indigenous to the Transvaal, this means that 16 species (almost two-thirds) have been plundered from other parts of South Africa. The commonest cycads appearing on the permit lists are *Encephalartos transvenosus* (9 391 plants), *E. lebomboensis* (7 817), *E. ferox* (6 238), and *E. lanatus* (4 319). The rarest are *E. woodii* (44), *E. cupidus* (132), and *E. inopinus* (355).



Cycad cones.

It is of course now virtually impossible to obtain a permit to up-root a cycad from the veld in the Transvaal. We hope collectors are aware of the heavy penalties which can be imposed for this type of offence. We hope, equally, that collectors will from now on just trade plants among themselves and that nurseries will be able to breed enough cycads to satisfy the public demand.

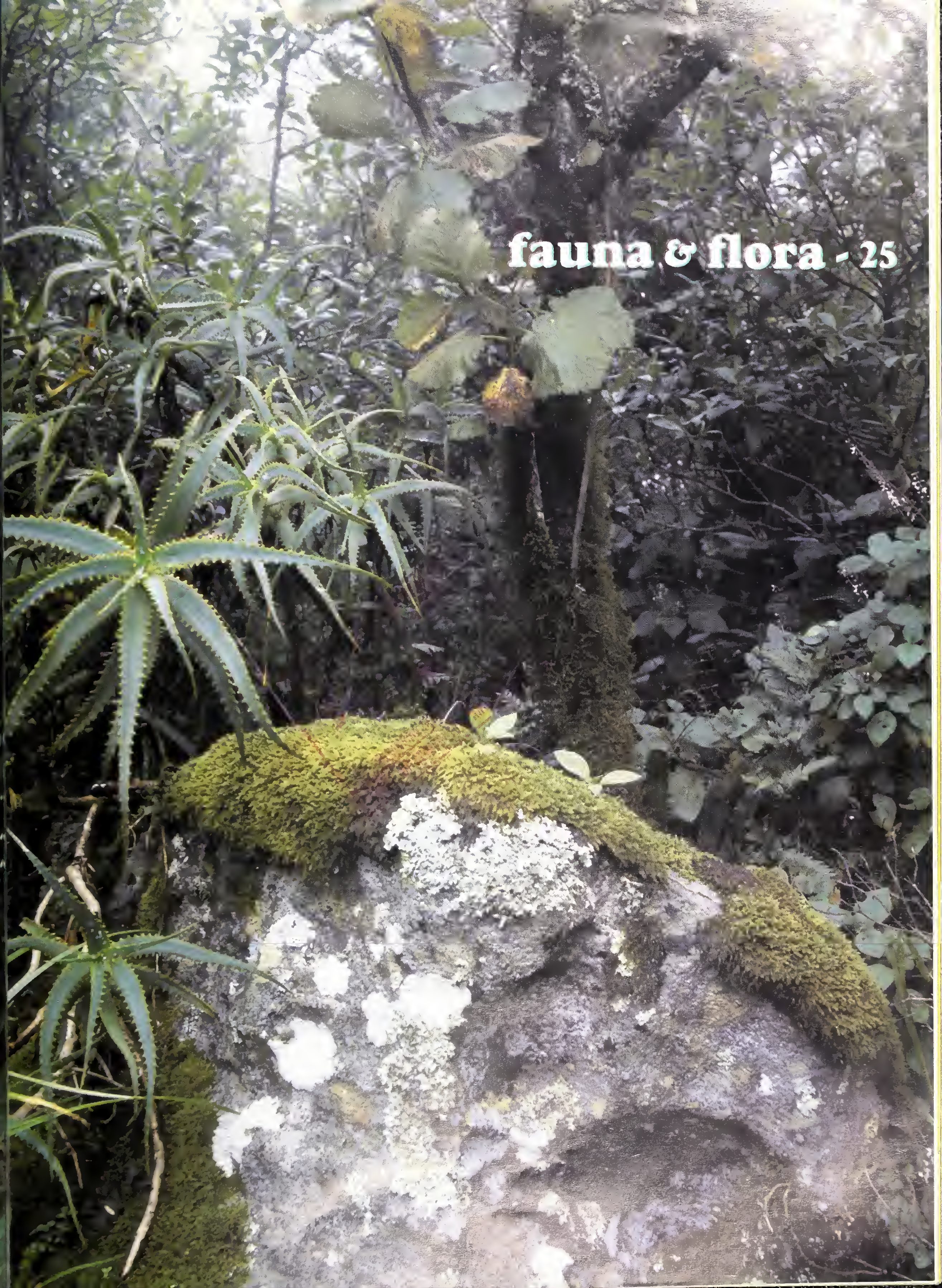
Anyone who still does not have a permit for his cycads should without delay request an application form from our head office. Remember too that whether you swop, sell, buy or give, a permit is required for any cycad transaction.

biologists meet

The thirteenth annual meeting of professional officers of the Transvaal Nature Conservation Division was held in the Blyderivierspoort Nature Reserve in November last year. The successful meeting was attended by 26 of the Division's own research and management staff. There were also 20 zoologists and wildlife workers from seven universities and other institutions in the Transvaal as well as two delegates from the Natal Parks Board and one from South West Africa.

During the four-day meeting, 38 papers and progress reports were presented with the subjects covering virtually every aspect of wildlife research presently underway in the Transvaal. These annual meetings not only enable research biologists to exchange knowledge and ideas but also bring together the Division's research and management personnel. In the field of nature conservation, workers are often stationed hundreds of miles apart so opportunities for both formal and informal contact among them are particularly important.

Wildlife experts at the Blyde Canyon conference.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TRANSVAAL NATURE
CONSERVATION DIVISION

NUMBER 25
AUGUST 1974

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Tiger fish . . . . Back cover

COVER PHOTO: Each species from the primitive lichen through to the higher flowering plants occupies an important niche in the rain forest.

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Fauna & Flora is an occasional publication of the Transvaal Nature Conservation Division and is published in English and Afrikaans at the Division's Head Office, Church Street, Pretoria.

Subscription is free on written request to: The Director, Transvaal Nature Conservation Division, Private Bag X209, Pretoria, Transvaal, Republic of South Africa, 0001.

ISBN 0 7991 0033 1

Printed in the Republic of South Africa by Heer Printing Co (Pty) Ltd, Pretoria.

nylsvley - a new provincial nature reserve for the transvaal and a centre for ecosystems research

On March 25, 1974, the Nature Conservation Division of the Transvaal Provincial Administration assumed control over the farm Nylsvley. Situated some 10 kilometers south of the small town of Naboomspruit in the northern Transvaal, this attractive area will in due course be proclaimed as the twentieth nature reserve of the Nature Conservation Division. Some unique geographical features and some planned future activities on the reserve will prove interesting to conservationists, scientists and anyone with a concern for the Transvaal's diverse wildlife resources.

Running through the centre of the reserve is the well-known Nylsvlei. The Nyl River rises in the hills north of Warmbaths and meanders through 120 kilometres of attractive bushveld savanna to eventually join the Magalakwin River near Potgietersrust.

Nylsvlei is a unique area, with numerous kinds of plants and animals living together. More than 400 different species of birds have been recorded as either living there or visiting the vlei. It is not only the vlei, with its precious water, which attracts the diverse fauna, but also the mixture of different plant communities, ranging from marsh to open grassland to various types of woodland. The science of ecology has long recognized that diversity in habitat means a diversity in animals living in those habitats.

The Nylsvley nature reserve will provide new habitat for some of the province's rare antelope, particularly the roan antelope and the reedbuck. At present the only protected roan population in the Transvaal outside of the Kruger National Park is a rapidly-growing herd on the Percy Fyfe Provincial Nature Reserve. Within the next few years this herd will be split and a new population established at Nylsvley. Reedbuck are very particular about the type and quality of habitat they occupy, and their numbers have dwindled alarmingly over the past few years. It is hoped that the extensive areas of lush, tall-grass vlei on the new reserve will lead to a substantial increase in reedbuck numbers there and provide an opportunity to study this elusive animal.

However, the main centre of attraction at Nylsvley for the next few years will not be the attractive vlei with its abundant fauna and flora, but the adjacent bushveld. This area, dominated by numerous wild syringa (*Burkea africana*), "lekkerbreek" (*Ochna pulchra*) and *Terminalia* trees, is one of the 11 different kinds of bushveld savanna found in the Republic, and has been chosen as a site for the country's Savanna Ecosystem research project. The project is a co-ordinated effort by the Council for Scientific and Industrial Research, the Department of Agriculture, the Transvaal Nature Conservation Division and most of the Republic's universities. Over the next few years scientists from many disciplines will study this piece of bushveld in fine detail. They will examine the soil, the vegetation and the diverse animal types very carefully, but more important, they will determine how all these plants and animals *interact* with one another and how they are affected by the non-living portions of the *ecosystem* such as rainfall and soil. A better understanding of the workings of this natural system will enable conservationists and agriculturalists of the future to conserve and utilize the bushveld to best advantage. The various types of bushveld and lowveld cover nearly two-thirds of the Transvaal. The bushveld on Nylsvley is still in a relatively natural state and will serve as an example of how such a natural system works.

the international convention on trade in wild animals and plants

dr. s. s. du plessis

The 3rd March, 1973 will be remembered as a prominent date in the history of international nature conservation. On that day an international convention on the contol of the trade in wild fauna and flora was signed in Washington, U.S.A. This was preceded by a conference which lasted three weeks, and at which 80 countries were represented.

This event simultaneously presented a rich reward for the I.U.C.N. which had been propagating the idea for years and also had prepared the necessary work documents. A result of this was the decision taken at the Stockholm Conference on Human Environment to convene such a conference and the United States undertook to act as host.

International trade in wild animals and their products has soared alarmingly and it now threatens many species. This fact was dramatically demonstrated during the conference by a newspaper report on the disclosure of the activities of an international organisation that had been responsible for the smuggling of thousands of hides of threatened animals into the U.S.A. Their practice was accidentally discovered when one of the crates containing hides broke.

The trade in threatened species can only be contolled by international co-operation. The purpose of the convention therefore was to find a basis for such co-operation.

Wild animals and plants that need protection from the trade have - for the purpose of the convention - been divided into three categories. Appendix 1 to the convention contains species that are threatened with extinction and which are harmed by trade. Export or import of these species will only be allowed in exceptional cases and definitely not for commercial purposes. A permit for the export of such animals will only be issued after it has been established that the country of import is prepared to issue an import permit. Furthermore, it has to be ascertained that the specimen has been lawfully obtained, and that proper facilities exist to house the animal or plant and that handling and packing answer to specific standards so as to avoid injuries and cruel treatment.

Appendix 2 contains species not threatened with extinction, but which may become threatened unless trade is controlled in such a way as to avoid excessive exploitation. Provision was also made for international control which will be achieved through a system of export and import permits. It is expected of countries that are participating in the convention to keep a watchful eye on these species.

Any country participating in the convention may add fauna and flora that are normally controlled to avoid over-exploitation to Appendix 3 should that country need the assistance of other countries in controlling the trade. In such cases other countries will not allow the import of those species from that country unless an export permit has been issued.

Every country has to designate one or more Management Authorities who are authorised to issue permits as well as Scientific Authorities whose function it is to guard over the status of rare species and to provide the Management Authorities with scientific advice.

Because the convention also controls the trade in animal products such as skins, the definition of "specimen" caused numerous problems. The difficult question that had to be answered was in what way processed products such as handbags, coats etc. should be controlled. In its final form the definition represents a compromise; in the case of animals in Appendices 1 and 2 it also includes any readily recognisable product while such products have to be specified for species in Appendix 3. When it concerns plants, products are only included in Appendix 1 while they have to be specified in Appendices 2 and 3.

The convention also protects marine species that are to be found on the open sea not under the jurisdiction of any country. Although these species desperately need protection, many objections were raised against this thought, mainly because it also includes whales and furthermore because the issue of the jurisdiction of maritime countries over the open sea is at present an international matter in dispute. Nevertheless, this controversial clause has been included in the convention and those five whales of which the hunting is prohibited at the moment by the International Whaling Convention, have been inserted in Appendix 1.

The Secretariat of the Convention will be provided by the Executive Director of the Environmental Program of the United Nations in Nairobi, while the government of Switzerland will keep copies of the ratified convention.

South Africa was represented at the meeting in Washington by the Ambassador to Washington, the Honourable J.S.F. Botha, who was assisted by the Directors of Nature Conservation of the Cape Province and the Transvaal.

The following South African species appear in the Appendices:

APPENDIX 1

Animals:

Manis temmincki	scaly anteater	ietermagog
Hyaena brunnea	brown hyaena	bruin hiëna
Panthera pardus	leopard	luiperd
Acinonyx jubatus	cheetah	jagluiperd
Equus zebra zebra	Hartmann's zebra	Hartmann sebra
Damaliscus dorcas dorcas	bontebok	bontebok
Crocodylus niloticus	Nile crocodile	krokodil
Geochelone geometrica	geometric tortoise	padlopertjie

Plants:

Encephalartos spp.	cycads	broodbome
Aloe albida, A. pillansi, A. polyphylla, A. thorncroftii, A. vossii	aloes	alwyne

Welwitschia bainesi		
	welwitschia	welwitschia

APPENDIX 2.

Animals:

Erinaceus frontalis		
	hedgehog	krimpvarkie
Felis serval		
	serval	tierboskat
Orycteropus afer		
	aardvark	erdvark
Diceros bicornis		
	black rhinoceros	swartrenoster
Cephalophus monticola		
	blue duiker	blouduiker
Spheniscus demersus		
	jackass penquin	Kaapse pikkewyn
Geronticus calvus		
	bald ibis	kalkoenibis
Balearica regulorum		
	crowned crane	mahem
Poicephalus robustus		
	Cape parrot	Knysna-papegaai
Varanus spp.		
	monitor lizards	likkewane
Python spp.		
	pythons	luislange

Plants:

Pachypodium spp.		
	kudu lily	koedoelelie
Cyathea capensis, C. dregei		
	tree ferns	boomvarings
Aloe spp.		
	aloes	alwyne

The Director of the Transvaal Nature Conservation Division (third from the right) conversing with delegates at the Convention.

transvaal scorpions

gerald newlands

The Transvaal is the home of four dangerous scorpion genera, all of which belong to the family Buthidae. Generally, buthid scorpions are easily distinguished from their less toxic relatives of the family Scorpionidae. Buthid scorpions have very slender pinchers (chela) and thick powerful tails while scorpionids have slender poorly developed tails and large powerful crab-like pinchers. The reason for these differences is accounted for by an examination of their respective approaches to matters of defence and prey capture. Buthid scorpions have highly toxic venoms and overpower their prey and drive off adversaries by injecting them with doses of this venom. Thus the pinchers are employed merely to hold the prey while it is being stung. The tail is thick and powerful to ensure that the sting at the tip of the tail will penetrate deeply enough into the victim's body so that the venom is quickly dispersed. Scorpionids, on the other hand, kill their prey by mechanical force, crushing them in powerful pinchers. Only when the prey is large and the scorpion finds difficulty in overpowering it, is the sting used.

South Africa has a very rich scorpion fauna, but fortunately scorpions are not a great problem here. In other parts of the world, notably America and northern Africa, scorpions account for more deaths than all the venomous vertebrates combined. One of the Transvaal scorpions *Buthotus* is virtually indistinguishable from a big killer in north Africa, *Buthus*. Some of the other genera are very closely related indeed. Another North African scorpion which causes deaths each year is *Androctonus australis,* the sting of which can kill an adult in four hours and a dog in seven minutes. The venom of this scorpion is one of the most powerful biological toxins known. The toxicity of a given mass of venom is not the only factor which should be considered when deciding how dangerous a given species is. The amount of venom the scorpion can deliver when stinging is also important: for example, while the venom of *Androctonus* is about ten times more toxic than the same mass of *Parabuthus* venom, the latter can deliver a far greater amount, which compensates for its lower toxicity.

Parabuthus transvaalicus and the equal sized *P. villosus* are unquestionably the world's largest buthid scorpions and can deliver about the greatest amounts of venom. This is in the order of 1,0 mg (dry weight) per gram body weight. A large specimen may weigh 12 g or more and accordingly its venom glands contain about 12 mg of venom (dry weight). At best, *Androctonus* could deliver about one quarter this quantity of venom. It is thus not surprising that most cases of serious scorpion bites in the Transvaal are attributed to *Parabuthus transvaalicus.*

Scorpions that are able to deliver very large quantities of venom sometimes squirt venom in the form of a fine jet when alarmed. This ability is not commonly realised and while the scorpion does not aim the spray of venom in any given direction - the consequences could be serious should a tiny drop enter an eye. The effect would be at least as serious as that of cobra envenomation by spitting. The author is aware of only one case where scorpion venom was squirted into the eye of a human and the symptoms were similar to those of cobra poisoning. It should be stressed that the scorpion does not appear to wilfully eject its venom in this way but does so when suddenly alarmed and the muscles over the poison glands contract, with the result that the venom is squirted out. Species such as *P. transvaalicus, P. villosus* and *P. schlecteri* can squirt their venom for distances of up to a metre when alarmed suddenly.

It may be of interest to consider the more common Transvaal buthid scorpion species individually as follows:

Genus *Parabuthus*

These scorpions are found in most areas of Southern Africa which receive less than 600 mm of rain per year. The genus contains the world's largest buthid scorpions, and they are the only buthids which can produce a sound by stridulation. This is effected by scraping the sting over a series of fine ridges and granules on the dorsal surface of the first two tail segments. Males have stouter, more bulbous chela than females and are generally slightly smaller.

P. transvaalicus

This is the largest Transvaal species, and is always blackish in colour. It stridulates when alarmed and is able to squirt its venom. Its normal habitat is beneath rocks and logs and it may scrape the soil away beneath the cover to form a narrow passage, at the end of which it can normally be found. Its distribution is north of the Waterberg in bushveld regions and it is the most common species of the genus in the Transvaal.

P. flavidus

Morphologically this species is very similar to *transvaalicus* but is much smaller, and is always yellowish in colour. This is a burrowing species, found in burrows in the open veld. Burrows are always made in sandy loam soils, and are oval in cross section with a depth of about 25 cm. Burrowing is performed by loosening the soil with its granular tail, then scraping this soil away. The latter process is achieved by bridging the body on the pinchers in front and the last pair of legs at the back. The first three pairs of legs are then free to kick and scrape the soil out of the burrow. This species can also squirt its venom and stridulates when alarmed. It is found in most areas north of the Waterberg.

P. granulatus

A large species, up to 9 g, more slender and finely granulated than the above two species. Its sting vesicle is small in relation to the tail thickness. This species does not normally stridulate when alarmed and appears unable to squirt its venom. The colour is generally a dark reddish brown in Transvaal specimens. The venom of this species seems to be more potent than that of *P. transvaalicus. P. granulatus* is a sand loving species and is only found in the sandy regions just north of the Soutpansberg. Very few specimens have been found to date. It makes burrows up to a metre deep in soft semiconsolidated Kalahari-type sand.

Its special adaptations to life in a sandy environment include long setae (hair) on the tarsi which serve to increase the effective surface area of the same, thus enabling this scorpion to walk on loose sand without sinking in. Also, the distal leg segments are equipped with a comb-like row of setae along the outer edges to facilitate sand scraping operations during burrow construction.

P. triradulatus

Morphologically, this scorpion is virtually indistinguishable from *P. granulatus*. It differs only in colour, being yellow like *P. flavidus,* so it may just be a form of *P. granulatus*.
This scorpion is very rare and is known only from the northeastern sandy regions of the Soutpansberg district. It is found in burrows in red sand as is *P. granulatus*.

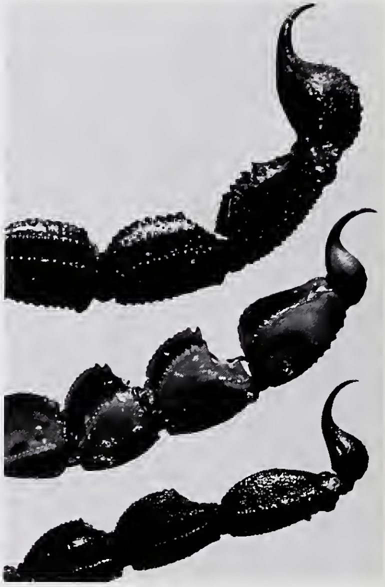
Genus *Buthotus* (formerly *Buthus*)

Scorpions of this genus are very similar to *Parabuthus* but differ in that they are medium sized, have no stridulatory ridges and granules on the dorsal surface of the proximal caudal segments, have three pronounced, darkly coloured keels along the dorsal surface of the trunk and a heavily keeled carapace. *Buthotus* is found only in the hot arid regions of southern Africa such as north of the Soutpansberg, Kalahari and Kaokoveld.

B. trilineatus

This is the only species of *Buthotus* occurring in the Transvaal. It is yellow with black markings and can be distinguished from all other scorpions in the region by the generic characteristics mentioned above. It is found on the surface of the ground beneath rocks and is quite common along the northern slopes of the Soutpansberg. It has been found in the northern half of the Kruger National Park. The toxicity of this scorpion's venom has not been established but morphologically it is virtually indistinguishable from one of the world's most poisonous scorpions, *Buthus occitanus* in north Africa. The author has seen *B. trilineatus* squirt its venom in the form of a fine spray when alarmed.

Λ
Parabuthus transvaalicus.



>
There is a noticable difference between the stings of Parabuthus granulatus, Androctonius australis *and* Parabuthus villosus.

Genus *Uroplectes*

These are small, slender rapid moving scorpions, generally brightly coloured (green, yellow, orange) and often with black geometric markings. They lack the three dorsal keels and carapace keels of *Buthotus* and are much smaller. They also lack stridulatory mechanisms.

U. triangulifer

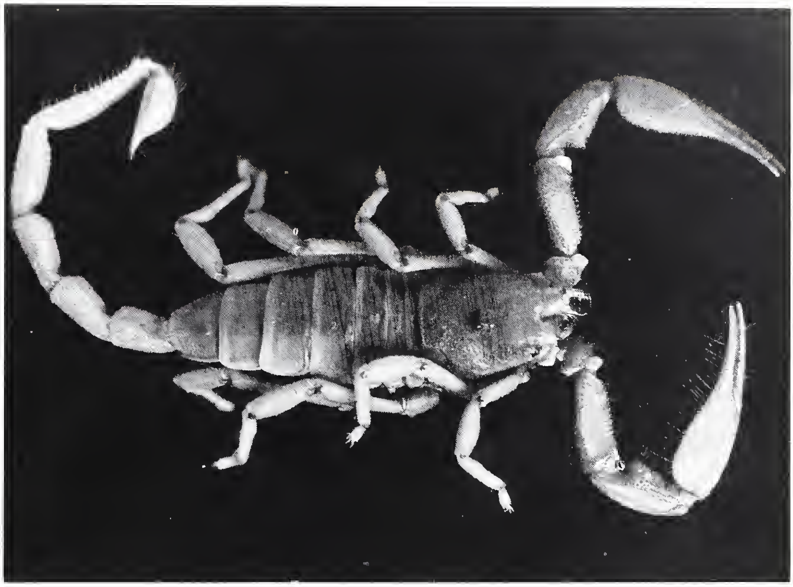
Commonly found beneath rocks, it often wanders into homes, and is generally orange but a deep green variety (*olivaceus*) occurs in the north eastern parts of the Transvaal, The tail is keeled. This is the only buthid species common on the highveld and is absent only in the Soutpansberg district of the Transvaal. Nothing is known about the toxicity of its venom but people stung by this scorpion suffer extreme pain and discomfort.

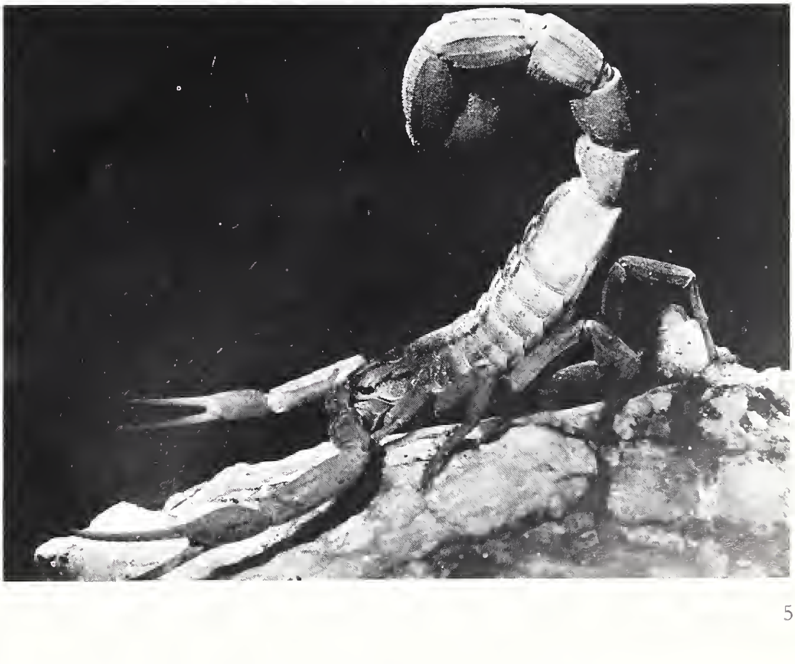
U. planimanus

This is a small yellow scorpion with black markings and relatively broad flat chela (hence its species name). The long, rather slender tail is keeled. It is the largest species of the genus and is found beneath rocks north of the Waterberg. Virtually nothing is known of its venom or general biology.

U. vittatus

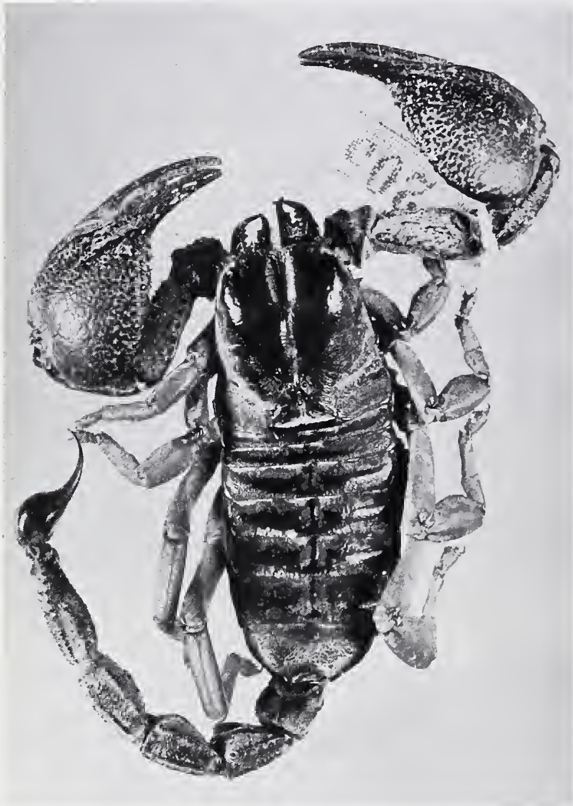
This species is small, yellowish and has black geometrical markings on the trunk. Its tail is quite smooth and without ventral keels which serves to distinguish it from the other species. The normal habitat is beneath the bark of trees and it is for this reason that people carrying wood at night or sitting on logs next to the camp fire often encounter this scorpion, the sting of which causes great pain. The species enjoy a wide distribution in the Transvaal but is generally not found on the highveld.

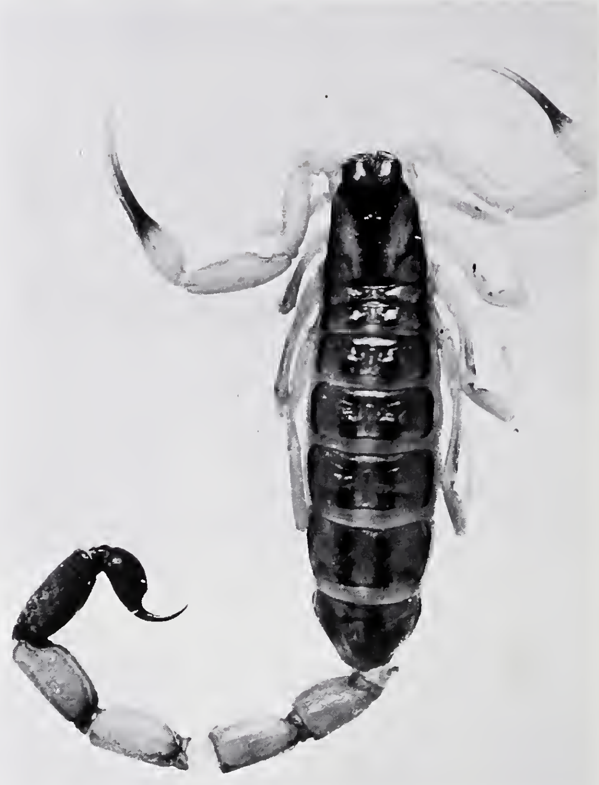




/\
Opisthophthalmus latimanus.

>
Buthotus aeratus.





From the above account of poisonous Transvaal scorpions, it should be clear that no dangerous species are to be found in the high population density areas of the southern Transvaal. It is necessary to stress that even in the northern parts where all the dangerous species occur, the larger but virtually harmless scorpionids are far more common. The two most common scorpionids, distributed over the entire Transvaal, are *Opisthophthalmus* and *Hadogenes,* both of which are large but about as venomous as bees. Indeed, *Hadogenes troglodytes,* the rock scorpion, common in the northern Transvaal, is the world's longest scorpion, with lengths of 210 mm from head to tail.

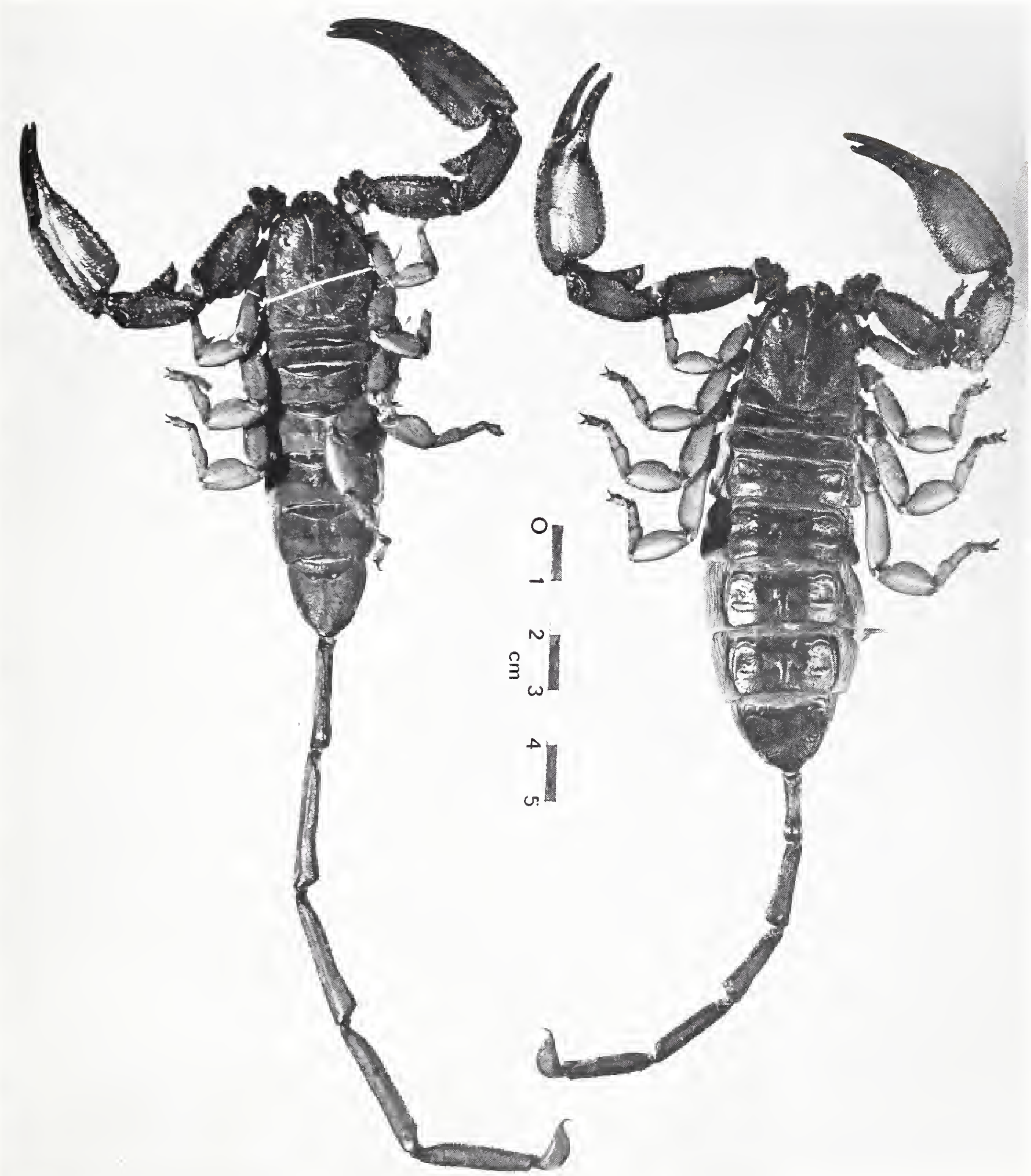
Most people believe that scorpions should be eradicated and while it must be admitted that one or two species are potentially dangerous, it is nevertheless not practical to eradicate them. They are cryptic animals, generally only active on the surface for few nights of the year, and accordingly, insecticides are not effective. Indeed, so much insecticide would have to be employed to ensure that the scorpions are reasonably controlled that the chemical will pose a far greater danger than the scorpions. Small compensation it may be to most, but scorpions do prey on insects which in many cases have been labelled undesirable by man.

The photographs for this article were taken by G. Newlands.

<
Opisthophthalmus ecristatus.

Λ
Uroplectes vittatus.

>
Hadogenes troglodytes: *the male is the longest scorpion in the world.*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the canyon trail - a lesson in natural diversity

graham g. catto

The first few steps along a Blyde River Canyon nature trail offer a portend of the magnificent diversity of nature. The fresh odour of wet soil, the touch of a summer day's heat on the cheek, the chatter of birds - these reach out to the senses of the urbanite, somewhat dulled by the harsh concrete and steel of his city environment.

The trail runs along the rocky plateau, through coarse grassland dotted with scraggy trees; then around a small knoll and out onto a rolling grassland almost devoid of woody plants. The grassland and its neighbouring escarpment are the home of the klipspringer, the mountain reedbuck and the lynx, but only the observant and quiet wanderers are rewarded by a glimpse of these wild inhabitants.

The path drops suddenly through a humid gulley filled with shrubby growth and with grasses clinging to the bare rockface. A few metres further and it eases out onto a broad ledge about one third of the way down to the canyon base. The nearby open woodland with its scattered tall trees and backdrop of sheer cliff wall is known to be a favourite night resting site for a local baboon troop. The trail winds around a rock wall and drops steadily, until it runs abruptly into a broadleafed forest. The sudden coolness and mottled shade contrast strongly with the sunburnt grassland outside. A musical gurgle and a mass of ferns of all sizes betray the presence of a small mountain stream. The harsh outline of boulders in the stream is softened by a velvet border of moss. An open patch in the forest canopy gives entry to a bright stream of sunlight which glares brightly on the orange lichen-covered boulder tops. A sudden flash of colour, and a Narina Trogon disappears amongst the upper branches.

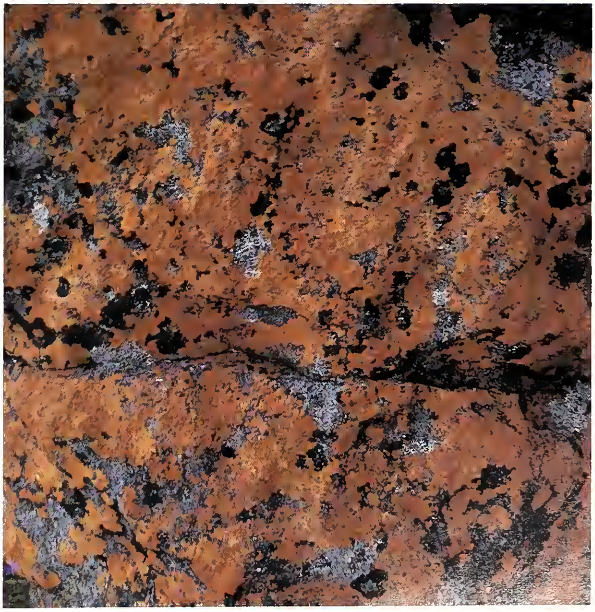
The forest ends as abruptly as it started, and the trail leads out into the bowels of the canyon. The yellow-white Blyde River swirls by, and the trail becomes a series of stepping stones to the far shore. Suddenly there is a power station, perched on the high shoreline. The dull grey

<
A study in contrasts - mountain sourveld and sub-tropical rain-forest.

>
Nature - the artist.

V
Nature's kaleidoscope - a study of mosses and lichens.

V V
Only lichens can colonise the bare rock faces.



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Dew on spiders web.

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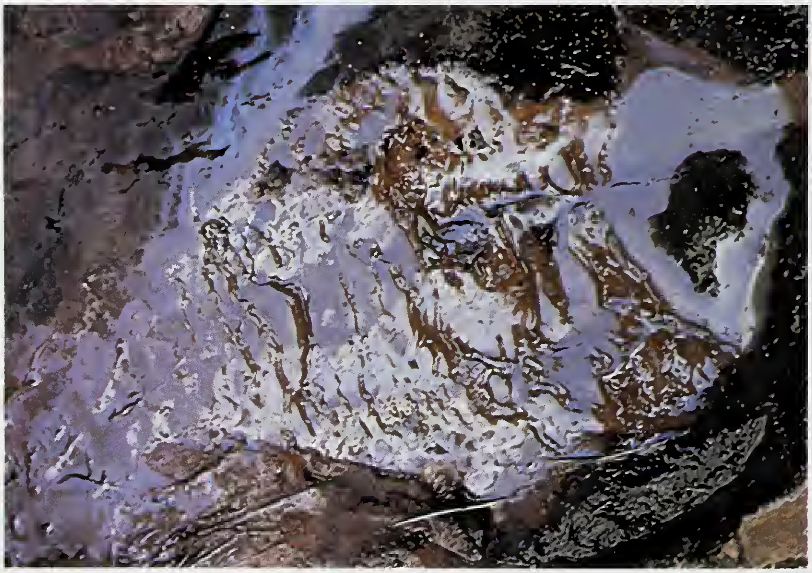
Water trickling over rock surface forms an etching.

>
Brunsvigia: *a symphony of colour.*

>>
Along the Blyde trial.



corrugated sides and roof contrast strongly with the surrounding forest, the winding road behind the station shows up red against the green foliage. But the power station is old, a relic of the old gold mining days, and its silent turbines and rusting pylons seem to offer an apology to the surroundings for the bygone years of flurry.

On into more open grassland to the northern base of the canyon, around some hillocks and past yet more patches of indigenous forest. Here a fantastic variety of plants and animals arrange themselves in a never-ending mosaic. Insects suddenly find an expanded living

space while ferns, mosses and fungi abound. A grey duiker ventures past, preferring the forest edges where the best of both worlds awaits him.

Now up goes the trail along the cliff, the endless changing scenes continue. The forest appears to end abruptly, then the trail turns and plunges back into its dark corners. But eventually the forest is no more, and the trail inclines up through grassland dotted with Proteas. Along the path many species of flowering plant grow, their form and texture reminiscent of the rich Cape flora so far to the south - pioneers of a plant migration to the north. Down in the forest a host of tropical species continue their slow route to the south.

A nature trail through the Blyde River Canyon provides a pleasant yet graphic illustration of one of Nature's important principles - *natural diversity*. Within the space of a few kilometers are sited plant communities of widely differing composition and growth form. Mistbelt forest with some of its species related to the Cape macchia vegetation lies close to humid broadleaf forest, and along an altitudinal plane one can pass rapidly from grassland to woodland of varying composition to riverine forest and even to lowveld savanna.

Rain forest and mountain grassland are among the most diverse plant communities in the Transvaal, and hundreds of plant and animal species live together in dynamic equilibrium. Some compete with others for space or for moisture, others prey on their neighbours, some depend on their fellow plants for shade and nutrients to such an extent that they cannot exist without them. Many of the plants and animals are present in very small numbers, a few species are abundant and seem to dominate the scene. But every species, insignificant as it may seem, has a place, and plays some small part in the whole magnificent scheme.

the effects of immobilising drugs on different species of game animals

dr. a. m. harthoorn

Drug immobilisation of wild animals is now commonly being used by most countries on the African continent, and the technique has made considerable progress since it was first used here just over a decade and a half ago. The method may now be regarded as a tool for the use of conservation officers and is increasingly being used by those associated with wild animal management such as veterinarians, conservation officers in national parks and nature reserves, biologists and game farmers. It may be useful at this stage to take a closer look at the method and drugs available and how the various species of animals react to the drug effects.

In many ways chemical capture of wild animals, that is, the restraint of wild and captive wild animals by means of drugs injected from a distance with a special syringe fired from a projector, is becoming more complex. At the recent International Symposium on Immobilisation of Wild Animals some fifty drugs were described. The newer drugs are easier to use as they are less species-specific and have a wider safety margin. This means that animals are tolerant to overdoses and the chances of them becoming sufficiently immobilised even if underdosed is greater. Also, the person concerned with a limited number of species need not concern himself with very accurate dosage rates once the optimal rates for his species have been determined.

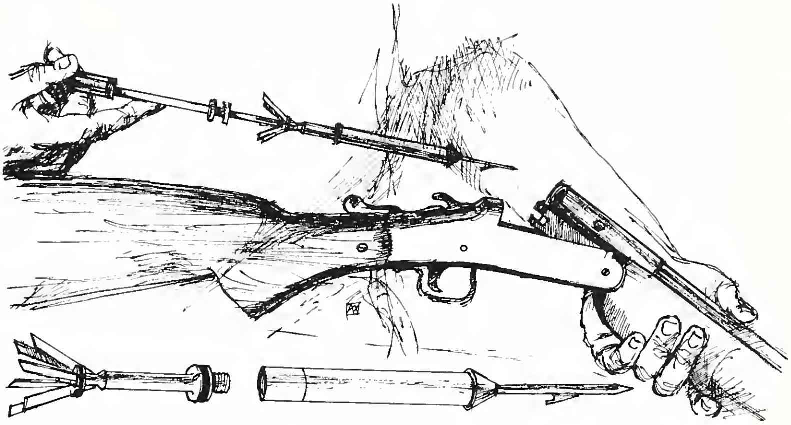
It is misleading to regard drug immobilisation as a simple and easily applied method of animal capture. The costs tend to be high and at least a working knowledge is necessary of the animals' reactions and requirements. The cost of drug immobilisation has recently been computed at the Nuffield Unit of Tropical Animal Ecology during the capture of buffalo and elephant. The number of hits registered was 70 out of 127 shots, in itself unusually good. Out of some 130 hits only 51 syringes functioned correctly. The others failed through plunger malfunction, blocked needles, needles breaking or the syringe bouncing off, and needles being blocked by skin or cartilage. The number of lost and damaged syringes was 30. In all 2,5 shots were necessary for every successful immobilisation. This resulted in a fairly high cost for each animal immobilised, namely R38 for an elephant and R42 each for buffalo who take a higher dose of etorphine hydrochloride, the principal drug used. In addition, equipment consumed amounted to R11 and R12 respectively with a further R41 and R18 for transport costs giving a total of R90 and R72 respectively for each elephant and buffalo. When using drugs other than etorphine, for which an antidote is provided within the original cost structure, the price of nalorphine or similar antidote must also be taken into account. The cost of immobilising smaller animals is less but the number of misses and therefore of lost syringes tends to be higher.

Chemical immobilisation is mandatory for the capture of the largest land mammals such as elephant, rhinoceros and hippopotamus and even giraffe. Large mammals such as buffalo and eland are difficult to catch by mechanical means. Medium and small antelope are commonly caught by driving into corrals and nets, although drug immobilisation is frequently used if they are tame enough to be approached fairly closely, or a helicopter to carry the marksman is available. There seems little doubt that, once injected, the danger of shock to the animal is greatly reduced as compared to driving into nets. On the other hand it may not be possible to effect the injection without disturbance of the animals, or without severe chasing by airborne or surface vehicle. In these cases the impact on the animal must be carefully weighed and the disadvantages associated with the need to come close to the subject for injection. From a moving vehicle it is usually necessary to approach a running animal to within 20–30 m, while if they are herded into nets or enclosures the animals may never have to extend themselves fully until actually captured. Conversely it has been shown that certain animals such as nyala tend to suffer severe mortality when captured near water holes after running no more than 100 – 200 m, indicating severe stress from struggling in the net itself or soon after in the holding enclosure or crate. The reaction of the various animals depends primarily on their awareness or otherwise of the capture team or marksmen. If these have been seen or winded the animal may well react with flight. If, on the other hand, the approach has been unobserved the initial injection may induce almost no running reaction. Most animals are, however, aware of the syringe and the discomfort of its presence. The smell of the syringe, is also liable to cause disturbance.

As the drug becomes absorbed the reaction will reflect the type of drug or drug combination used. The morphine-like compounds favoured for most capture today tend to cause unrest so that the subject may start to run. Subsequently it will wander aimlessly and eventually exhibit the typical exaggerated leg movements refered to as 'hackney gait', owing to its resemblance to the stepping of trained carriage horses. The reaction of the animal to drug effects will differ considerably according to the species or group. It is convenient to divide the animals into groups for this purpose.

Larger animals such as the elephant and the squarelipped rhinoceros do not readily show excitement as a result of "morphine" effects. In these, immobilisation drugs such as etorphine may be used on their own, or together with a synergist hyoscine hydrobromide. These large animals take relatively little drug in relation to their weight, e.g. about 6 mgm etorphine is needed for an adult buffalo weighing 500 to 600 kg and only 5 mgm for elephant who may weigh nearly ten times as much. No tranquilisers, therefore, need be used for these animals although a little is usually added, partly to fill the syringe and dilute the contents, but also for a degree of synergism that even extremely small amounts of tranquilisers such as acetylpromazine appear to exert even at dosage rates as low as 1 to 5 mgm per 500 kg body weight.

The second group comprises those animals that respond well with little excitement to synthetic-morphine and tran-



quiliser mixtures, such as zebra and wildebeest. These animals appear to immobilise very readily with little excitement and become completely tractible when under the influence of these drugs. There is little danger involved in handling these animals in the immobilised state even if they remain on their feet.

The third group includes the more dangerous and aggressive animals such as oryx, roan and sable. These are only safe to handle if large amounts of very powerful tranquilisers are used. Doses of 300 mgm or so of azaperone are effective as is also rompun which is virtually an anaesthetic.

These compounds are used in combination with fentanyl; the latter can be effectively neutralised by an antagonistic drug and the animal will remain under the tranquillising effect of the azaperone or rompun. Sometimes etorphine is used together with fentanyl and the tranquilisers; it too can be neutralised by antagonists. It is a general rule that the greater the number of synergistically acting compounds in a drug mixture, the smaller the total dose required.

Fourthly there is a group of highly nervous animals that tend to run as a reaction to morphine-like compounds. Animals such as nyala and kudu are therefore difficult to immobilise with the commonly used compounds. For these also carefully balanced mixtures of immobilising and tranquillising drugs are necessary, with usually several tranquillising drugs being used simultaneously for their synergistic effect. Many of the smaller antelope also fall into this category so that for these mechanical means of capture are often preferred. Where these animals are in enclosures a double technique of injection is often successful. This entails making a primary injection of the tranquillising drugs only and administering the immobilising dose only when the animals are deeply tranquillised or sedated.

Immobilising techniques today constitute a fairly effective and humane method of animal capture. The method is relatively simple where it is confined to one or two species for whom a methodology has been worked out in detail. The use of centrally acting narcotic-type drugs have advantages in that the animals are apparently oblivious of their surroundings and appear to remember little or nothing of their experience. They have disadvantages in causing untoward reactions such as excitement in certain species. Their safety margin and general reliability is such, however, that they have tremendous advantages over compounds formerly used. The potential user should, however, familiarise himself beforehand with the idiosyncracies of the animal to be immobilised as well as with other problems such as holding and transport and of the costs likely to be involved.

problem animals and their control

l. g. oates

Problem animals. A new name for a rather old problem. In essence these are wild animals whose activities clash with the agricultural and other interests of man, usually by raiding his grain and vegetable crops or by preying on his livestock.

Some of the most beautiful and interesting wild animals on earth present a problem to man because they compete directly with him for their food. These used to be given the condemning name of "vermin", but are now more understandingly termed "problem animals".

Throughout the civilized world, the question of control of wild animals which inflict damage to crops and livestock is fraught with emotional issues. The strong forces of tradition, deep-rooted beliefs, ignorance, and expediency frequently force true ecological or logical issues into the background. It is only natural for farmers to resent the maraudings of baboons on their ripening maize, or the depredation of jackal on their sheep flocks. Because of the damage they occasionally inflict, jackal, baboons and many other furred and feathered creatures with which man must share the land, have gained a notoriety which is often completely out of proportion to the damage they actually inflict. Man himself is of course the primary "problem animal".

South Africa's fauna is particularly diverse and abundant. Prior to the arrival of the white man in the country, nature probably maintained a relatively undisturbed equilibrium. With the rapid increase in man's numbers this equilibrium has been seriously disturbed. As a result of the drastic reduction in game and other prey species, the natural food of predator has diminished, and he has had to turn to alternative food sources. It is really not surprising that these animals should find man's exotic livestock and crops to be tasty morsels.

Today there are a fairly large number of wild animal species which from time to time conflict with the farmers' interests. In size, they range from tiny rodents and fruit-eating bats to the occasional elephant which wanders out of the sanctuary of a national park.

In the Transvaal the two most important problem animals, in terms of effort and money spent on control measures, are the black-backed jackal and the baboon. Leopard and hyaena occasionally cause concern in cattle ranching areas, while the lynx and fruit-eating bat are relatively new problems in certain localities.

One of the Transvaal Nature Conservation Division's functions is to conduct research into the ecology of our problem animals; to establish to what extent they present problems and to develop humane, effective and selective control measures.

The cardinal principle in problem animal control is that these animals fulfil a useful role in nature: extermination is totally undesirable. Farmers are therefore encouraged to limit control to those animals which are causing damage, and not to strive for the extermination of the species.

Investigational research of damage to livestock and crops has shown that damage is frequently caused by just a few individuals, and that elimination of these few will provide a solution.

Large amounts of money are spent on problem animal control by the farming sector and by the State since the whole problem revolves more around economics than any other factor. It is often revealing to draw up a rough balance sheet, comparing the cost of control, whether it be traps, cages or manpower, with the benefits gained from control. Where serious inroads are made into valuable crops or livestock, there will be little hesitation in carrying out control. Effective control often means a considerable investment in transport, manpower and time, however, and the farmer should decide for himself whether the end justifies the means.

Problem predators on nature reserves need to be considered apart from those on private land. In reserves economic considerations are usually secondary, and the justification for control lies in avoidance of losses to threatened or rare species. This is especially so where new areas are set aside as nature reserves and game animals are re-introduced. Local control may be instituted to minimise predation on newly introduced populations to enable the latter to reach sustainable levels within a shorter period.

We usually think of predators as preying animals but seldom do we consider the fact that all animals in a given area are interlinked. Predators are not only affected by prey, but are affected by other predators within a given area. Some of these predators feed on each other.

We must beware of over-controlling a problem population. The objective should always be to either remove the problem or to reduce their numbers so that their depredations cease to be of any practical significance. Over-control is not only uneconomic, but leads to the very real danger of other problems being created. In parts of the eastern Transvaal today, overcontrol of black-backed jackal appears for example to have led to the emergence of the lynx as a sheepkiller, a problem which may be more expensive and far more difficult to control than the jackal.

<

The black backed jackal could present problems to small-stock farmers.

<<

The aardwolf is often erroneously blamed for stock depredations. Its diet consists almost entirely of small invertebrates.

V

Fruitbats may cause problems in orchards from time to time.

nature notes

the movements of fish in transvaal rivers

Man-made obstructions such as weirs and dams interfere with the movement of fish in rivers and prevent them from reaching natural breeding grounds. In a study of this problem by Mr. S.R. Meyer of the Lowveld Fisheries Research Station, two localities were used to gain basic knowledge on the movements of various kinds of fish. Two-way fish traps, catching fish moving downstream as well as those moving upstream, were built in the Elands River near Marble Hall and at the Engelhard Dam fish-ladder (Letaba River) in the Kruger National Park.

Over a period of three seasons 83 767 fish consisting of 28 different species were collected from the Elands River. The usual pattern of movement of fish is upstream from September to December with a peak in November. Fish then again move downstream from January to April with a climax in March after they have completed spawning in the upper reaches of the river. Mass migrations coincide with a rise in the water level and turbidity of river water although minnows move when the water level is relatively low. Fish like *Barbus marequensis* (large scale yellow-fish) move during the day while *Clarias gariepinus* (barbel) moves during night time.

The movement pattern at the Engelhard Dam is basically similar except that migrations occur earlier than in the Elands River which is at a higher altitude.

At both collecting points certain larger fish were marked with a plastic marker which carries the name "Marble Hall" as well as a number. Anglers fishing in the Limpopo river system are requested to be on the look-out for marked fish and to inform the Lowveld Fisheries Research Station at Marble Hall should such fish be caught.

roan antelope make good progress

Roan antelope (*Hippotragus equinus*) have always been amongst the province's rarest ungulate species, and even today the total number in the Transvaal, including the Kruger National Park, probably does not exceed 350. The last remaining survivors outside the Kruger National Park roamed over a large area north of Vaalwater, where the difficult rocky terrain made capture very difficult. The first of the remaining stragglers was captured by the Nature Conservation Division's game capture unit in mid 1968 and transferred to the Percy Fyfe Nature Reserve where the sourveld vegetation provided habitat similar to that of the area where they were caught. In mid-1969 another nine were captured and added to the herd, and these started calving later in the same year. Further successful capture operations in 1970 and 1971 brought the total to 26.

During the 1973 calving season which stretched from April to October, 12 calves were born on the Percy Fyfe Nature Reserve. One calf died from an infectious disease, but the herd total was brought to an unprecedented 37, and the roan's future in the Transvaal is beginning to look a little brighter. During 1973 a large herd of blesbok was removed from the Reserve to make room for the growing roan population. If future calving is as successful in the herd, translocation to other provincial nature reserves where suitable habitat occurs, will be considered.

V
One of the first roan antelope calves to be born at the Percy Fyfe Nature Reserve.

a new film completed

The Transvaal Nature Conservation Division has recently completed a new colour film "Flight from Extinction". It is a 16 mm film and runs for ± 15 minutes. Filming of game capture operations took place in the Vaalwater area and the Percy Fyfe Nature Reserve and depicts the capture and translocation of roan antelope for resettling in the Percy Fyfe Nature Reserve. Many interesting scenes have been filmed especially the capturing of game with drugs.

The film on game capture and also recent films on nature conservation subjects, are available to the public free of charge. Any person who would like to make use of these films should contact their nearest Nature Conservation Officer.

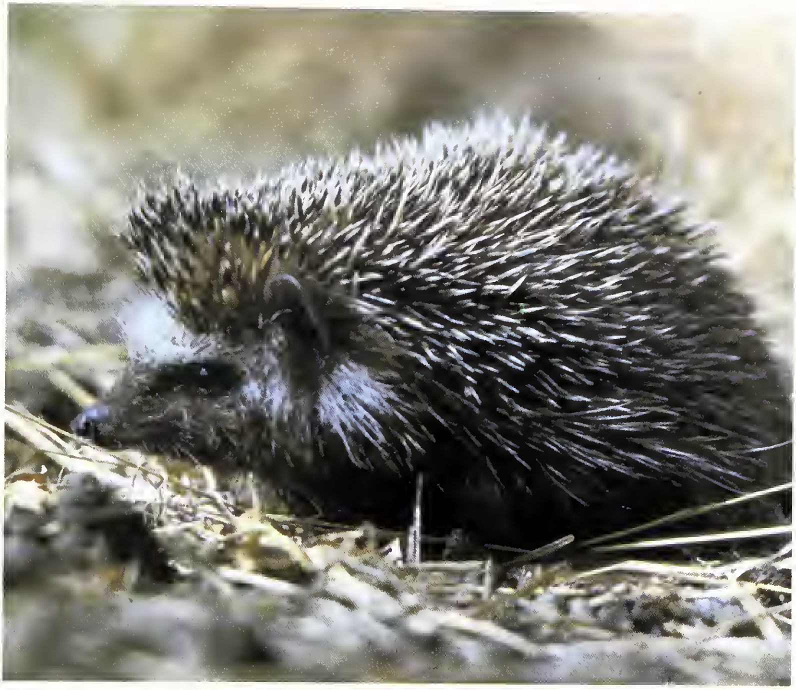
Copies of films may also be obtained by mail from: The Director of Nature Conservation, Private Bag X209, Pretoria, 0001.

a strange find

A Bilharzia Research Officer found some fish fry in his dip-nets while collecting bilharzia snails in a Lowveld river. He sent the fish fry to the Lydenburg Fisheries Institute for identification. The fry had only recently hatched and were too small to be positively identified, but it was quite evident that they belonged to no known South African species.

The site where the fry had been found was visited the next day and a large pool in the river was netted. The officer conducting the survey was most surprised to find a large and evidently thriving population of a very beautiful tropical fish species named the sword-tail (*Ziphophorus helleri*) in his nets. This species was originally imported from Mexico at tremendous cost by aquarists.

How they got into the river where they were found is a question that will probably never be satisfactorily answered. Furtunately the species shows no indication of becoming a problem, and further extension of its distribution is unlikley because of waterfalls. It could easily have been a dangerous fish, however, or some species that could cause widespread problems if it became established in Transvaal waters. The Division of Nature Conservation controls the release of fish in Transvaal waters by means of a permit system. Persons found releasing live fish in Transvaal waters without a permit are liable to prosecution.



the hedgehog

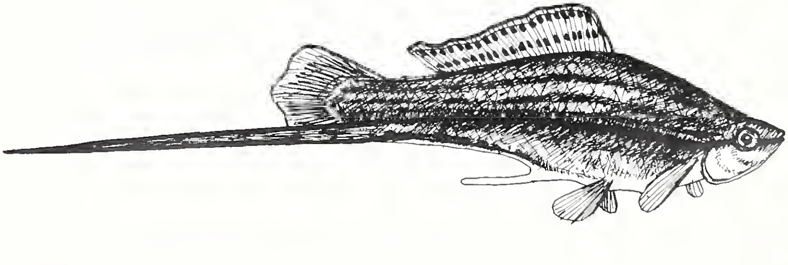
The hedgehog (*Erinaceus frontalis*) is an unobtrusive little animal which is to be found on some of the Division's Nature Reserves. The animal is nocturnal and therefore it is very difficult to establish exactly how many there are. There are definite indications that their numbers are declining.

It is hardly necessary to give a description of the hedgehog – see the above photograph for details. The prominent white frontal band is characteristic of the South African hedgehog. This band extends downwards on either side of the head to below the ears, and is part of the animal's camouflage. As long as the animal remains motionless this colour tones in with the soil and general surroundings.

The hedgehog does not depend on speed as a means of defence but uses its four little legs to scuttle along at an astonishing rate. Normally it does not bite but emits a blowing sound and curls itself up. The spines project at all angles and seem adequate to distract any intending attackers who might consider the hedgehog a juicy morsel.

The numbers of hedgehogs seem to be diminishing, mainly because its natural habitat is being destroyed by agricultural development and urbanization. Unfortunately for the hedgehog Africans consider its meat a delicacy.

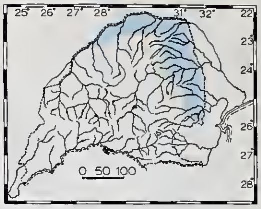
The hedgehog's diet mainly consists of insects, but it also devours snails, small reptiles, mice, worms, termites etc. The animal thus fulfils a substantial role in suppressing destructive insects, and proves itself a friend of man.



Ziphophorus helleri

tigerfish

dr. e. j. kruger



The tigerfish is among the most popular angling fish species in the Transvaal. Unfortunately it only occurs in limited distribution areas in the lower stretches of east-flowing river systems. It is primarily a warm water fish species. The body is slim and the fins are usually red or orange in colour. Should the fish be kept in clear, stagnant water, the colour of its fins will fade. Besides the colour of the fins, the horizontal black lines on the body as well as the cartilaginous structures surrounding the eyes are further outstanding characteristics of this species.

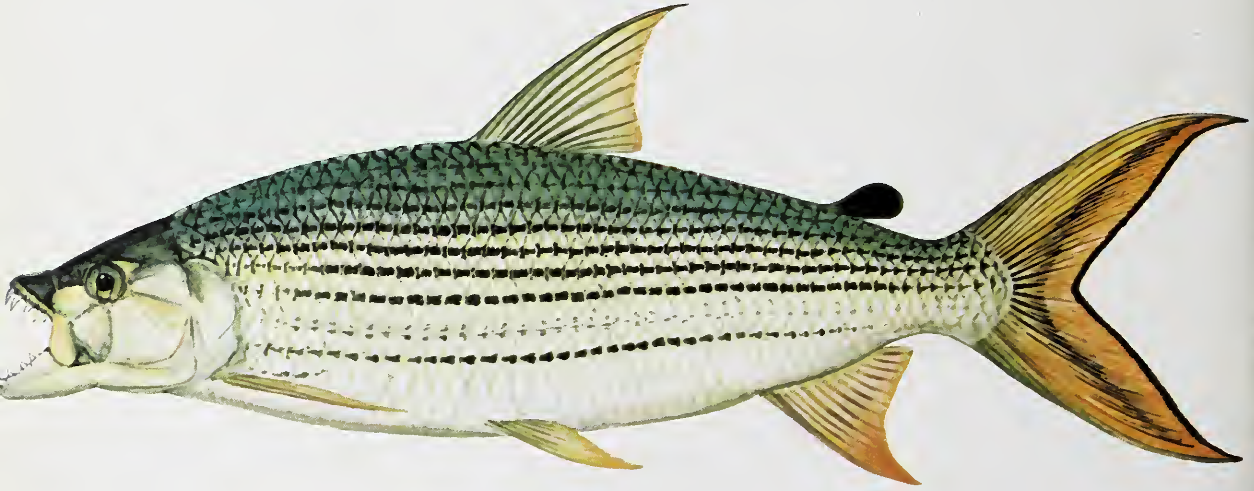
The tigerfish is primarily a predaceous fish and is well equipped for this purpose. Teeth that are found on both jaws are razor sharp. Teeth that are broken or damaged are replaced with other teeth that are situated in the hollows of the jaws and are ready to grow out. During the usual hunt the prey will be charged head on and often bitten in half. Prey is usually grabbed from the side, released and then swallowed head first.

In the Transvaal tigerfish rarely exceed a mass of 8 kg, while they easily reach 14 kg in Rhodesia. Males mature at a length of ± 35 cm. Females usually grow much larger than males and one can readily assume that all fish exceeding 45 cm in length will be females.

Tigerfish have an interesting breeding pattern: migration occurs downstream during summer and breeding takes place in certain lower stretches of the rivers on the Makatini flats (KwaZulu) and in Mocambique. This migration pattern causes concern because the return of breeding fish is hampered by obstacles such as weirs and gill-nets. As a result the tiger fish has declined drastically in the upper reaches of Transvaal rivers. At present studies are being undertaken by the Nature Conservation Division to breed this fish artificially, with the purpose of stocking suitable waters.

fishes of the transvaal

The illustrations on this page are from the book "Fishes of the Transvaal" by Pieter le Roux and Louis Steyn. This high quality but inexpensive fish guide is obtainable from book stores or can be ordered from the Public Relations Officer, P.O. Box 5636, Johannesburg, 2000. Postal orders or cheques to the value of R1–75 should be made out to "Fishes of Transvaal".



fauna & flora - 26

fauna & flora

TRANSVAAL NATURE CONSERVATION DIVISION

NUMBER 26 AUGUST 1975

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COVER PHOTO: A white helmet shrike at its nest.

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FAUNA & FLORA

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Fauna & Flora is an occasional publication of the Transvaal Nature Conservation Division and is published in English and Afrikaans at the Division's Head Office, Church Street, Pretoria.

Subscription is free on written request to: The Director, Transvaal Nature Conservation Division, Private Bag X209, Pretoria, Transvaal, Republic of South Africa, 0001.

ISBN 0 7991 0033 1

Printed in the Republic of South Africa by Heer Printing Co (Pty) Ltd, Pretoria.

marievale - a gift to conservation from the mining industry

The Transvaal is basically a semi-arid area not richly endowed with suitable habitats for our large variety of water-birds. However, one good area lies very close to the most densly populated and developed part of the Transvaal, namely the Witwatersrand complex.

Flowing through the East Rand is the Blesbokspruit with its extensive reed-beds, open stretches of shallow water and marsh-land. This is one of the Transvaal's most valuable wetland areas and has until recently received little if any protection. The deterioration and pollution of these vital habitats are increasing alarmingly and are, therefore, a matter of considerable concern to conservationists.

A wetland such as the Blesbokspruit can be conserved for future generations simply by adequate fencing, provision of fire-breaks and controlling aquatic pollution. Not only will waterfowl have a suitable refuge, but the unique complex of indigenous aquatic vegetation will be preserved, and with this a host of organisms from the plankton to small vertebrates such as amphibians, reptiles, other birds and small mammals. A very important consideration not generally realized is the natural biological purification process carried out by such marshes, where the whole ecological system assists in purifying the water which passes through it.

Recently a portion of the Blesbokspruit wetland was donated to the Transvaal Nature Conservation Division by Marievale Consolidated Mines Limited (a subsidiary of Union Corporation). The area donated is some 483 ha in extent and represents the best portion of this wetland system.

The Marievale Mine authorites are to be praised for protecting this area as a bird sanctuary for the past 13 years. No shooting has been allowed since the early 1960's. The mine management has enforced this rule by prosecuting offenders on occasions. To ensure the continued conservation of this bird sanctuary after the possible cessation of mining activities, the area was donated to the Transvaal Provincial Administration, which is today responsible for the conservation and management of the Marievale Bird Sanctuary.

Marievale Bird Sanctuary is a valuable refuge for nomadic waterfowl and proof that even in proximity to mine dumps, slimes dams, mine shafts, rock dumps and farm lands, wildlife can prosper if granted adequate protection.

Ringing recoveries from the Blesbokspruit have indicated that this is possibly the most important waterfowl area in the Central Transvaal. The Blesbokspruit which runs through the area provides waterfowl with their three basic needs water, food and shelter.

Mr. S.T. Madden, resident honorary nature conservation officer at the mine, has been studying the bird-life here for many years and has compiled a check-list of marsh-birds numbering 127 to date. To this varied habitat many other bird species have been attracted. Birds such as mountain chats and stone chats seem to find the rock dumps a natural environment. Jackal buzzards often seen on slimes dams swoop down in effortless glides to pounce on rodents in the surrounding veld. The crowned crane, a rare bird in its natural state, has been recorded here.

Particularly noteworthy amongst the wealth of water-birds is that, with the exception of the extremely rare northern pintail and European shoveller from the northern hemisphere and the relatively rare dwarf goose, a tropical species, every single duck and goose species in southern Africa has been recorded as occurring in the sanctuary. Regular breeding of such important waterfowl as the yellowbill duck, Cape shoveller spurwing goose and Egyptian goose is also recorded.

Today the sanctuary is enclosed by a two metre high margin fence and is open to all bird-lovers. Undisturbed observations and photography at the two hides, that have been built at the water's edge, can be most rewarding.

This Division hopes to obtain control over a number of scattered wetlands in the Transvaal, so as to provide a nucleus, of waterfowl sanctuaries where the birds will be able to find suitable breeding and moulting habitat. Plans are presently being made to conserve further areas of the Blesbokspruit, so that this valuable habitat can be safeguarded for all time.

an endangered species - the python

niels jacobsen

The African Rock Python (*Python sebae* Gmelin) is one of three true pythons found on the African continent. The other species are the Dwarf Python (*Python anchietae*) from southern Angola and northern South-West Africa and the Royal or Ball Python (*Python regius*) from West Africa. The Rock Python is the most widely distributed and the largest snake on the African continent.

The Rock Python is essentially light to greyish-brown in ground colour with dark-brown blotches and transverse bars which are interconnected by a continuous or broken brown band running along either side of the back and forming a ladder-like pattern. The sides are frequently mottled or spotted with brown. The large pear-shaped head has a lanceolate dark-brown marking on the crown which is bordered on either side by a pale stripe running from the nostrils to above the eye and on to the temporal region. The tail is dark-brown with occasionally a pale vertebral stripe. When viewed in sunlight the body has a glossy bluish to purplish irridescent sheen except when the skin is about to be shed. The underparts are mainly a greyish colour in young specimens but older reptiles are white, but always speckled or spotted with black or dark-brown.

In South Africa the range of the python is restricted to the Transvaal and Natal and extends across northern Botswana to northern South-West Africa. By 1927 the last python had been killed in the eastern Cape Province although it probably still occurs in the Transkei and Ciskei; it does not occur in the Orange Free State.

The name "Rock Python" is really a misnomer since pythons are equally at home in mountains or hilly terrain, in marshes and in grass-land. However, with increasing encroachment onto grass-land habitats by agriculture and industry, the python has retreated to the comparative isolation of the hills and ridges.

Pythons are normally found close to water although they sometimes wander about some distance away. They often submerge for an hour or more at a time, lying with only the nostrils and eyes out of the water. They are quick to use rivers or dams as a place of refuge should they be threatened or surprised. On the great lakes in East Africa pythons have been caught in fish-traps. They swim very well and have been sighted long distances from the shore. Although generally found on the ground or in water, the python is also an excellent climber and is often found lying outstretched along a branch or investigating a hole in the hope of finding food or shelter.

The African Rock Python has a very wide range of food preferences. When it is young it may feed on mice, birds and frogs; however, as it matures larger prey is taken and prey animals range from cane-rats and porcupines to animals as large as impala and there are even records of leopard having been attacked. Birds also form a large part of the diet and guinea-fowl and Egyptian geese are frequently eaten. Strangely enough the python has also been recorded feeding on the water leguan.

The python normally catches its prey while it is lying coiled up under a bush, in tall grass or reeds or while partially submerged in a river. From these positions any passing prey animal may be captured. The python always strikes with an open mouth, lunging at the animal to obtain a firm hold with its numerous curved teeth. The force of the attack frequently unbalances the prey and enables the snake to wrap two or three coils around it. The prey is killed by asphyxiation and then swallowed whole, usually head first. The two halves of the lower jaw are connected by an elastic ligament which permits an astounding expansion of the jaws. Copious amounts of saliva assist in the swallowing of the prey.

Once a large meal has been ingested, the python moves to a sheltered spot and digestion proceeds. Large prey may take up to a week to digest and even bones are broken down by the highly acidic stomach juices. Only hair, hooves and horns are not broken down and are usually found in the faeces. During the warm months of the year the python will eat as regularly as possible and build up large quantities of body fat as during the cold season little food is taken in.

Pythons can fast for very long periods of time and in captivity a year is by no means abnormal. In fact a python has been known to fast for a period of 2 years and 9 months. During the 2 – 4 month hibernation period water is also not taken up although pythons drink regularly during the warm months.

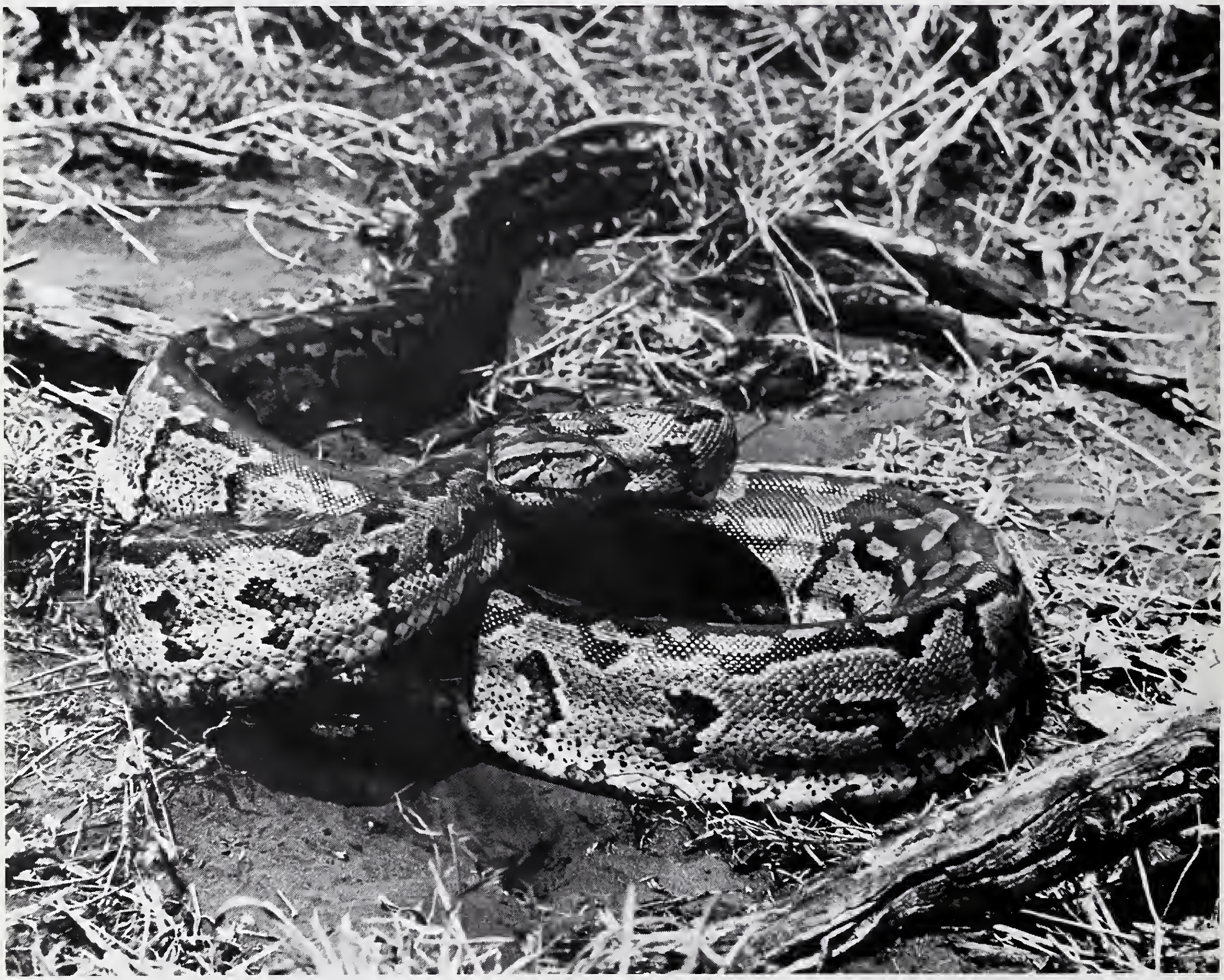
Camouflage is important to a predator such as the python.

It would appear at present that there is no fixed seasonal reproductive activity. Female pythons laying eggs, or ready to do so, have been reported for the months of January, March, April, June and November with perhaps a slight peak during the months of March and April. The eggs are laid in a variety of situations such as cavities and hollows under trees, in dense underbrush, in rank grass or reed-beds and in the holes of antbears and springhares. The number of eggs laid varies from 20 to over 100 but is on the average between 20 and 30. The eggs are spherical and measure some 112 mm in diameter with a weight of about 256 grams. Around this mass of eggs, which may be 30 cm in height, the female coils and stays in this position for 6 to 8 weeks only leaving on rare occasions.

The embryos in the eggs develop considerably prior to laying and reach an average size of 49 cm and a weight of 72 grams when the eggs are laid. A large proportion of the eggs may be unfertile, frequently up to 50 per cent of the clutch being lost. After a further incubation period of from 6 to 8 weeks the young pythons are ready to hatch at which stage the female leaves the eggs. The juveniles tear through the egg membrane aided by a temporary egg tooth situated on the snout. On hatching the juveniles are between 45 and 60 cm long and usually remain together for several days, frequently in the company of the mother. There is, however, no maternal care of the young apart from this.

Growth is fairly rapid initially and under captive conditions may be as much as 140 cm per annum. However, this rate is not maintained, and a python measuring approximately 1 metre increased in length over the period of 5 years and 8 months to 2,8 metres thus growing an average of 35 cm per annum. This rate slowed down further and during the following 3 years

Although normally sluggish in its movements, the python can strike with astonishing speed

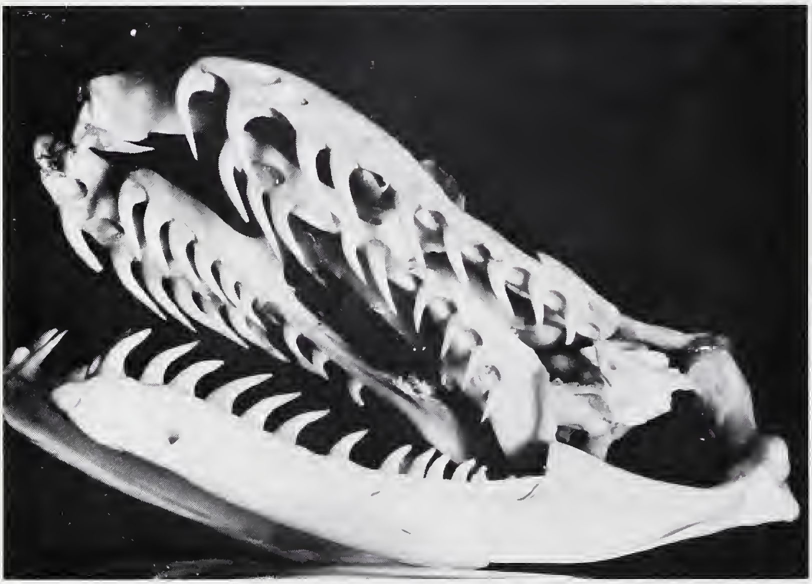


only increased at a rate of 18 cm per annum. However, in nature the growth rate is considerably slower.

Pythons live 20 years or more and it is probable that a python takes from 10 to 15 years to reach maturity. Pythons are on the average 3½ to 4½ metres long but can under exceptional circumstances and great age reach a length of from 6 to 8 metres. A 4½ metre python may weigh 27 kilograms but this varies considerably with the amount of food taken in, and specimens of the same length in captivity may double this weight.

The python has few enemies when adult and it is not surprising to find that man is its major enemy. Its skin is in constant demand as leather for shoes, handbags and purses, and the python was killed in past years by the thousands to pamper the likes and wants of fashion conscious

A young python makes a cautious entry into a hostile world.



Skull of an adult python.

people. This trade still exists today in other parts of Africa but fortunately has been brought under control to some extent in South Africa. However, apart from commercial enterprise, the view that the only good snake is a dead snake still prevails over most of Africa, and even pythons are not exempted with the result that large numbers are still killed simply because they exist.

Other enemies which have been recorded as killing adult pythons are leopard, crocodiles and even bushpig and warthog, mainly for the protection of their young. However, it is mainly among juveniles that the highest mortality occurs as many species of birds of prey, smaller carnivores, leguans and crocodiles prey on them. Mortality prior to hatching may also be an important factor in which fungi and bacteria could play an important role.

The python is a protected species in the Transvaal and Natal. However, at present there is great difficulty in maintaining a check on the killing of the python. On most farms it is viewed with suspicion and usually killed on the spot regardless of whether it has just been caught in the act of eating the farmer's fowls or not. It must be emphasized here that while this eating of domestic stock may happen on occasions, it is probably more the exception than the rule. As mentioned above, the python feeds on a variety of mammals, birds, reptiles and even amphibians which it obtains in less disturbed surroundings. It is thus of considerable value in maintaining a check on animals which cost the farmer a considerable amount of money annually. In Natal pythons in the cane fields are protected to a large extent because these snakes prey largely on cane-rats which do great damage to the cane crop.

In conclusion, it would be gratifying if people would consider snakes in a less horrified manner and instead think a little of the considerable amount of good they do in maintaining a check on rodent and bird populations which are so injurious to the farmer, and which cost the Government thousands of rand in control programmes. The pythons and other snakes have just as much right to the veld as we have, so let us consider them, if not with indifference, then with goodwill.

some endangered succulents of the transvaal

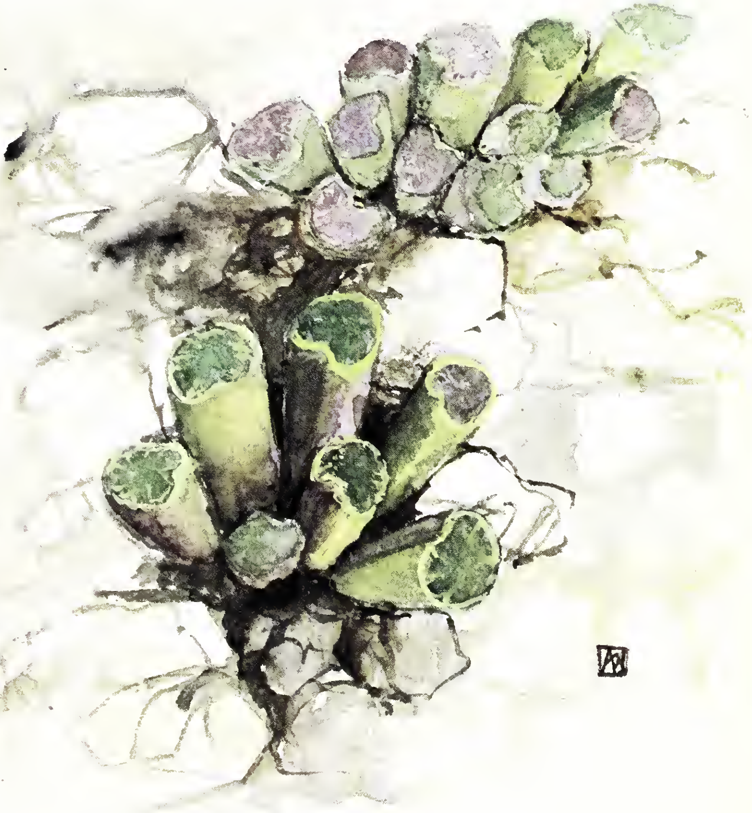
gerrit germishuizen
water-colours by annemarie belzer

The past few decades have seen tremendous expansion of human populations in the Transvaal. Industrialization and urbanization have gathered momentum and have swallowed up vast areas of the landscape. More and more of the Province's arable land has fallen under the plough, and other parts of the veld have been subjected to greater intensities of grazing by live-stock and burning.

Natural vegetation has retreated in the face of this onslaught. Removal or disappearance of the larger and more prominent plant species is obvious to most people, but many smaller and frequently overlooked species have suffered as well. Amongst these are the small succulents, that are particularly sensitive to habitat changes and habitat destruction and are fast becoming rare plants in the Province.

A deciding factor in these plants' struggle for existence will be the extent to which they are collected and removed from their native habitat by succulent collectors. Because of the very real danger posed by such collection, many species of small succulents are listed as Protected Plants in the Nature Conservation Ordinance, and their collection without the specific permission of the Nature Conservation authorities is a serious contravention of the law.

Although small and often unnoticed, many small succulents are attractive, and when they flower they become objects of rare beauty. A brief description of four of the Province's rare succulents is given here.

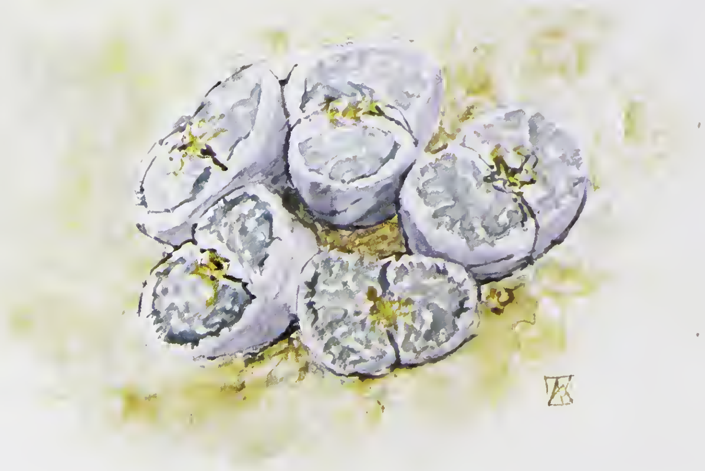


Frithia pulchra.

Lithops lesliei – N.E. Brown.

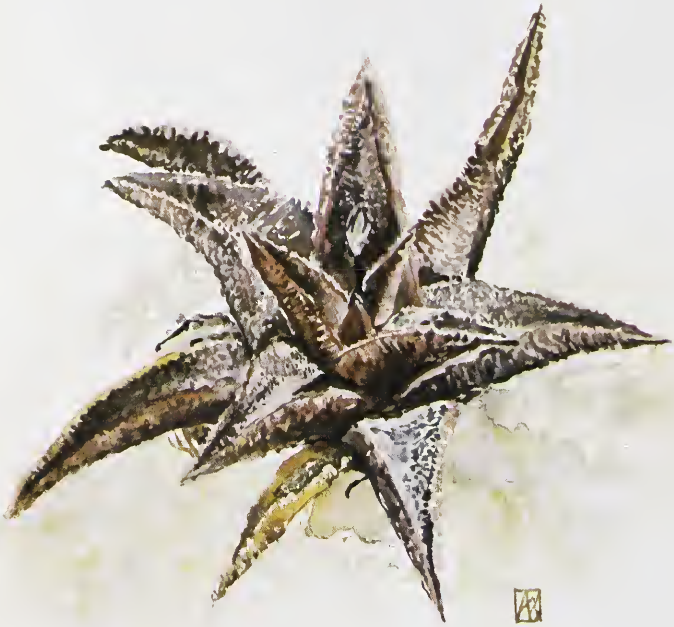
This is the only species of the genus *Lithops* to occur in the Transvaal. It has been recorded at Pietersburg in the northern Transvaal, between Pretoria and Vereeniging as well as near Alberton, Kraalkop, Vaalwater, Haenertsburg, Benoni and Koster.

Lithops lesliei grows either singly or forms clumps of two or more growing to a height of 3 cm. The two leaves are opposite and fused together, the tops of the lobes being flat, smooth and sometimes slightly convex, the sides being purple-grey to green in colour. The flowers are bright yellow, with the numerous petals arranged in series. The buds originate between the two opposed leaves.



Frithia pulchra – N.E. Brown.

Only one genus and species occurs in the Transvaal and is restricted to the Magaliesberg mountains between Rustenburg and Middelburg.
This very small stemless, perennial herb, named in honour of the late Frank Frith, consists of 5–7 leaves, softly succulent, flat or slightly concave on the inner surface and rounded on the outer surface.
Frithia pulchra frequently grows in the vicinity of quartzite pebbles and is very difficult to locate unless in flower. The flowers are light violet to white in colour and may be sessile or subsessile. There are five sepals while the petals are more numerous, arranged in several series. The stamens are also arranged in series and are inserted in the tube. The seeds are fine with small tubercles.



∧ *Lithops lesliei*

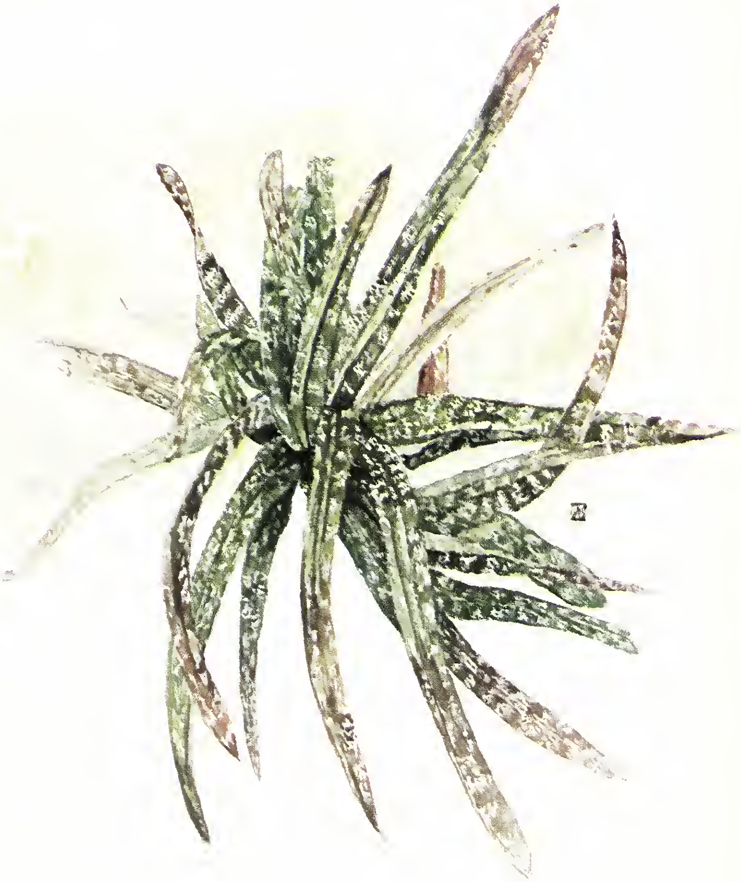
< *Haworthia koelmaniorum.*

Gasteria transvaalensis – Bak.

Only one species of the genus *Gasteria* has been recorded in the Transvaal, namely *Gasteria transvaalensis,* found in the vicinity of Barberton in the eastern Transvaal.

In the year 1885 a plant in cultivation at Kew Gardens outside London was catalogued as *Gasteria transvaalensis* by Louis de Smet, a nurseryman of Ghent, and later described by Baker although its flowers were then unknown.

This plant is a small, perennial, stemless, succulent herb suckering from a short rhizome. The roots are long, soft, and copiously branched. The leaves are hard, leathery, fleshy within, arranged at first in two rows and with maturity becoming rosulately arranged with approximately nine leaves in a rosette. The leaves are also variable in length and shape with the leaf margin being shortly dentate with white, hard, blunt teeth; the epidermis being minutely verrucose, glossy dark-green with irregular, indistinct, transverse rows of scattered slightly raised white spots. The flowers are arranged on a loose spike or raceme about 50 cm long. They are tubular, swollen at the base, generally hanging, pale pink below turning green towards the tips.



Gasteria transvaalensis.

Haworthia koelmaniorum – Oberm Hardy.

The first specimen of this species was collected in 1963 near Groblersdal by N. Koelman, hence the name. So far the only known distribution of *Haworthia koelmaniorum* is in the Groblersdal district on north facing slopes of sandstone ridges.

Haworthia koelmaniorum is a small, rosulate, succulent herb with unbranched contractile, swollen roots originating from a short, hard, erect rhizome. The leaves vary from 18 to 30 in number, in the form of a dense rosette with the leaf margins folded inwards above; smooth and pale coloured at the base, dark purplish brown, not keeled and verrucose above; with small, shiny, translucent tubercles arranged in irregular, transverse, wavy bands on the outside.

The flowers are small, erect, greenish-white in colour, 10 to 30 originating from a raceme or spike.

the master builders

p. le s. milstein

Although various insects, spiders, fish, frogs and mammals build nests, there is no doubt that birds are the most elaborate and painstaking nest-builders. Birds, sometimes aptly described as "glorified reptiles", in one respect resemble their reptilian ancestors closely. They lay hard-shelled eggs which they must incubate: none give birth to live young. Many bird species have actually avoided the necessity of building nests, usually by laying camouflaged eggs or being themselves well-camouflaged while incubating their eggs. Although much could be written on this fascinating evolutionary adaptation, the purpose of this article is simply to discuss some interesting nests of Transvaal birds.

The hamerkop is unique to Africa, adjoining parts of Arabia and Madagascar, and is in many respects a peculiar bird. It is regarded with respect by superstitious peoples. Scientists place hamerkops in their own special family, between the herons and the storks, since they have affinities with both groups yet differ anatomically. Another peculiarity is their well-known nest, placed either on a cliff ledge or in a tree. This colossal nest is over 2 metres across and sometimes nearly as high. It is constructed over a period of 6 months by the slender birds, which are themselves only half a metre in length.

They use mainly sticks and reeds liberally plastered with mud, but will incorporate any articles such as nylon stockings, cowpats or paper that take their fancy. The relatively tiny entrance is cleverly placed at the most inaccessible position, necessitating powers of flight by predators to reach it. Only man and the honey-badger can rip their way through the thick walls into the nest-chamber. There is only one chamber, although one of the world's best recent ornithological text-books still propagates the amusing legend of three separate chambers with

A crested grebe and its typical half-submerged nest (Photo: Cyril Laubscher).

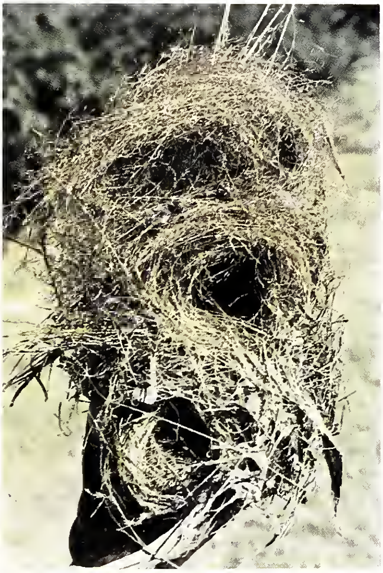
A typical hamerkop nest perched well above ground level on a cliff ledge (Photo: P.C. Viljoen).

different functions. Unfortunately for the hamerkop builders, the marvellous nests are coveted by barn-owls, Egyptian geese and wild bees. The rightful owners are often forcibly dispossessed even before completion.

Even larger than the hamerkop nests are the amazing sociable weaver nests found from the south-western Transvaal to South-West Africa and further afield. They are generally conceded to be the world's largest nests, not only resembling the roof of a thatched hut, but often as large. Unlike the hamerkop nest, these efforts are not the solo efforts of one pair of birds, but a community project which usually goes back many generations. They can be regarded as the first blocks of flats: a communally-constructed roof, but individual nest-compartments with their own entrances.

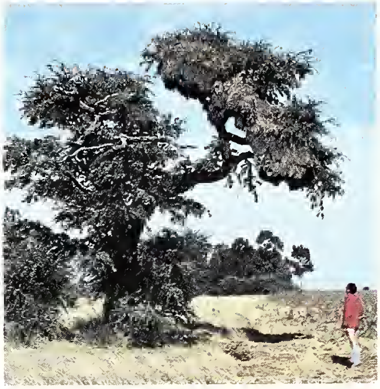
Apart from the soft nest-linings, coarse straw is used throughout, and the entrances are framed by projecting straws which tend to impale prying hands. However, Dr Gordon Maclean in his detailed study of the sociable weaver describes the ease with which large Cape cobras gain access by looping from one compartment to another, destroying the entire colony's progeny. So large are these communal nests, and so much straw is incorporated that, apart from breaking supporting branches, they have actually supplied a source of emergency fodder to drought-stricken desperate cattle-farmers. A single compartment in the nest-mass is often taken over by the tiny pygmy falcon, hardly larger than a sparrow. However, stories of this little falcon protecting the colony from snakes are nothing more than charming fables.

The crested grebe is a widely distributed species admired for its graceful and handsome appearance, particularly during the spectacular breast-to-breast courtship display. Like other grebes, it is a highly-specialized water-bird with a remarkably stream-lined shape for pursuing small fish under water. Part of this efficiency is due to the fact that, like penguins, the legs of grebes are situated very far back on the body. They are excellent swimmers and good fliers, but their walking ability is poor.



∧
A unique three-storeyed common waxbill nest (Photo: P. le S. Milstein).

∧ ∧
A white-breasted cuckoo-shrike with its nest cleverly camouflaged with lichens (Photo: Cyril Laubscher).



∧
A palm swift and its nest amongst the dried fronds of a palm tree (Photo: Peter Ginn).

∧ ∧
A sociable weaver nest reputed to be at least 100 years old, near Barberspan in the western Transvaal (Photo: P. le S. Milstein).

They need a run along the water surface to take off and cannot take off from dry land. The interesting grebe nest mirrors these adaptations. An innocent mound of waterweeds, so low that the eggs are barely clear of the water, is the answer. The crested grebe emerges from the water, walks a minimum distance, and settles on its eggs. When the parent is absent from the nest, the eggs are covered with loose portions of water weed, but uncovered by the parent on return. The chicks leave the frail nests immediately after hatching and are even carried on the backs of the parents.

Nests in trees are often well concealed by leaves or situated in holes. The well-known hornbill habit of walling in the female with mud except for a tiny feeding slit is a remarkable adaptation. However, the interesting nest of the white-breasted cuckoo-shrike is a brilliant example of concealment situated in a position for all to see. The nest is well sited in a fork; it is as small as will support the eggs and chicks and is deliberately camouflaged to blend with the branch. Scale lichens and "old man's beard" lichens are deliberately attached by the parent bird in a highly successful way to make the nest as inconspicuous as possible. Even for experts, careful study of the parent birds is the best way to discover nests of this cuckoo-shrike. The nest is almost impossible to detect from below during a casual examination.

Some ground nests are equally well concealed. Extreme cases are the capped wheatear, which nests far down a rodent-hole and is almost impossible to find in the veld, or the South African shelduck, which habitually nests down antbear burrows and where the eggs may be deeper than 8 metres. Even the nest of the red-capped lark can be extremely difficult to find. The lark makes a sunken cup-nest, often under a camouflaging tuft. Although the selected nest-hollow may be too large, it conceals the cup in an ingenious way. The surplus hollow is filled in with nest material until the lark has actually extended the ground-level right up to the rim of the cup. Care is taken to camouflage this false floor, and one has to look into the cup to discover the nest.

The sunken cup-nest of the red-capped lark almost invisible under a grass tuft (Photo: P. le S. Milstein).

Eggs of an Egyptian goose in a white-breasted cormorant's nest constructed partially from moulted goose feathers (Photo: P. le S. Milstein).

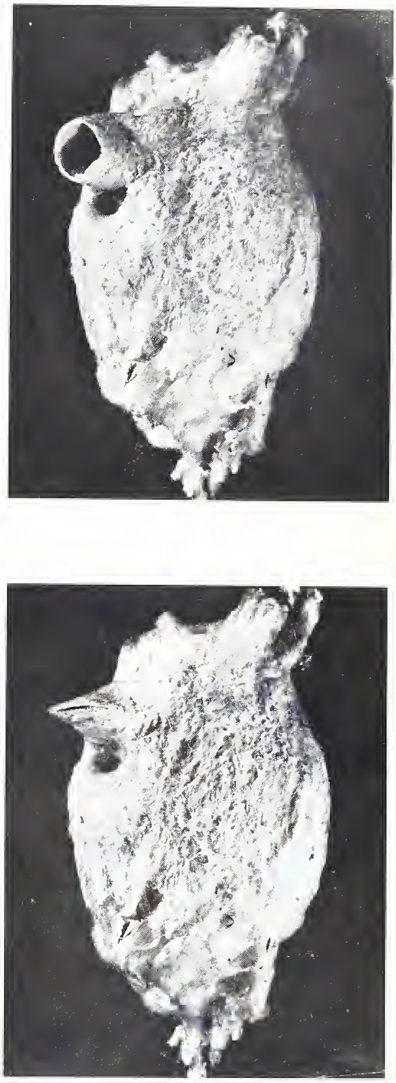
Other nests may be ecologically interesting. Bronze mannikins often deliberately build their nests right next to an active wasp nest, obviously for the protection these short-tempered neighbours provide. However, the accompanying photograph of Egyptian goose eggs in a white-breasted cormorant nest is an even better example. When geese moult, they drop all their flight-feathers simultaneously as they can survive by diving to evade enemies. With a shortage of nest material, the cormorants used these moulted goose-feathers extensively to build nests. After the cormorant breeding season, the geese obviously considered this particular goose-feather nest excellently suited for their own nesting purposes. The typical lining of down had yet to be added.

Many people confuse the group of birds known as swifts with the better-known swallows. Actually swifts are much better adapted to an aerial life than swallows, with legs suited to clinging, wider gapes to capture flying insects, and long, narrow, sickle-shaped wings which have enabled them to achieve the fastest recorded bird flight. Our smallest true swift, the palm swift, builds the most interesting nest in this group. It consists of a little pad of feathers glued together with saliva and attached by the same means to dead palm leaves hanging vertically downward. The nests are glued on so that the rim is nearly vertical. But how do the eggs remain in a vertical nest swaying in the wind? The eggs are actually glued to the nest! From when they hatch, the chicks must hang on for dear life. This can be readily understood, but how do eggs which can never be turned by the parent hatch normally? Possibly the swaying of the dead palm branches is sufficient. Palm swifts sometimes nest on steel railway bridges, where they build bulkier nests. Since steel girders do not sway in the wind, how then are the eggs sufficiently moved? Possibly by the vibration of passing trains. However, some palm swift nests have now been found on concrete bridges subject to far less vibration. Apparently these eggs can simply do without the equivalent of turning.

Another interesting habit that has not yet been satisfactorily explained is that of the common waxbill in building a double-storey nest. Normally situated on or near the ground, the ball of soft grass with its side entrance has another similar ball built on top of it: this upper nest is called the "cock's nest", though it does not seem to be used by the cock even for roosting purposes. At Barberspan a pair of common waxbills had built their nest on the floor of a shallow pan which was gradually filling with water. When the chicks were about half-grown, the slowly rising water finally reached the nest. Although the cock's nest could never have been built for this emergency, I transferred the chicks from their wet chamber into this fortunately provided upper storey. It was amazing that the parents then felt obliged to build another cock's nest on top of the existing one, even if less neat. This definite three-storey nest is shown in the accompanying photograph, taken after the waxbill chicks had fledged successfully, and showing the straggly "after-thought" second cock's nest.

It is fitting to conclude with what is probably the most interesting nest in the Transvaal. This is the densely felted nest of the penduline tit, of which the Cape penduline tit is a western Transvaal species, and Carol's (or grey) penduline tit occurs in the eastern Transvaal.

The white nests were presumably made mainly of vegetable down in the past, but tufts of sheep-wool are readily incorporated when available to assist in forming a remarkably thick and strong felt. However, the really fascinating feature is the false pocket provided on all nests and which is a brilliant way of misleading predators such as snakes. The parent bird on leaving the nest uses its tiny bill to pinch closed the true entrance to the nest. The tiny bill-marks can be seen, and the sealed entrance protrudes above the false pocket like a porch roof. A finger inserted into the false pocket is unrewarded, and even a careful examination may show no entrance unless the secret is known. The felt adheres together unless gently parted to allow entrance to the nest-chamber. The penduline tit nest is truly a remarkable structure and a fine example of the degree of adaptability achieved by birds in protecting their vulnerable eggs.



Two views of the ingeniously constructed nest of the penduline tit, showing the true entrance when open and when shut by the bird. The entrance to the false pocket lies immediately below the true opening (Photo: William Massyn).

oribis - the vanishing highvelders

p. c. viljoen

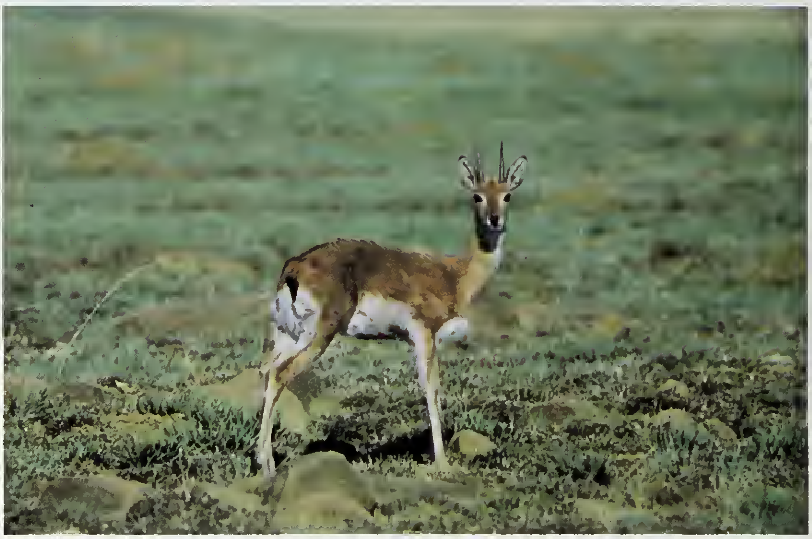
Owing to its limited distribution and small numbers, the oribi (*Ourebia ourebi*) is one of the lesser known species of game in the Transvaal. It is also a species which is often incorrectly identified by laymen.

This antelope species is a member of the Bovidae family which includes most African antelope species and which is divided into five subfamilies: the oribi is classified under the subfamily Antilopinae and within this subfamily under the tribe Neotragini which also includes the steenbok, klipspringer and the grysbok.

Oribis are the largest of the smaller antelopes and reach a height of approximately 60 cm and a weight of approximately 16 kg. The females are sometimes larger than the males. The red to yellowish-brown colour on top and the contrasting white of the underparts are characteristic of the oribi. The short tail is bushy and black and contrasts sharply with the white hair on the inside of the thighs. The coat has a silk-like and slightly curly, sometimes woollen, appearance. Only the males carry horns which have rings at the base and which reach an average length of 12 to 14 cm with a maximum length of approximately 18 cm. The ears are large, narrow and pointed with a circular patch of hairless skin at the base. Preorbital glands are situated medially below the eyes. Small tufts of long hair are sometimes visible on the knees of the front legs.

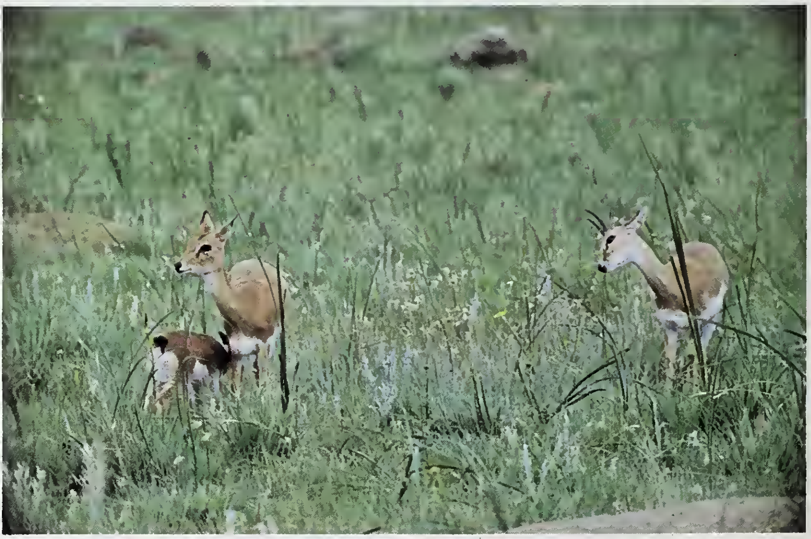
People often confuse the oribi with the more familiar steenbok because these two species of antelope bear a close resemblance. There are, however, marked differences between the two species: the steenbok's slighter build, broader ears and the absence of the striking black tail distinguish it from the oribi.

In earlier times the oribi was widely distributed over the grass-land areas of southern Africa, from the eastern Cape Province east to Natal and north to the Orange Free State, the Transvaal, Mozambique, Swaziland and Rhodesia. They were also found in parts of the Caprivi Strip and northern Botswana. At present the oribi only occurs in restricted areas in the four provinces. The largest oribi concentration is in the Transvaal, where their distribution is restricted to the high



Oribis show a preference for burnt veld.

A single lamb is occasionally observed with the family group.



A pregnant oribi ewe during the lambing period.

Although they are primarily grazers, oribis also make use of other food plants.

eastern escarpment. At present oribis are located on several nature reserves as well as on private property and game reserves. In the Transvaal oribis occur on the Loskop Dam, the Suikerbosrand and the Blyderivierspoort Nature Reserves, and also on the Van Riebeeck Nature Reserve and in the Kruger National Park.

Indications are that oribi numbers are decreasing over the entire distribution area. Injudicious hunting, and the increasing pressure exerted by human occupation as the result of more intensive agricultural and industrial development, could be considered the main limiting factors. It appears as though natural limiting factors are of lesser importance. Both direct and indirect human interference are considered responsible for the threat to the continued existence of this graceful species of antelope.

In South Africa the oribi mainly occurs on open grass-land. Mountain sourveld also forms a typical oribi habitat where the antelope prefers plateau areas to slopes. The oribi is often found in relatively rocky areas as well as in semi-bush or open savanna regions. They avoid dense tree growth and bush vegetation. In exceptional cases, when serious pressure is being exercised on their natural surroundings, the oribi also occurs in dense tree areas such as plantations.

The oribi is primarily a grazer. Usually they are found in pairs or in family groups. The group sizes vary between two and six individuals but single individuals of both sexes also occur. The groups usually consist of an adult male and female or a male and two females. A family group may also consist of juveniles. Oribis often form aggregations of several family groups when up to 12 individuals graze together. When danger threatens, the groups flee in different directions.

As with many other antelope species the oribi is territorial. The males show an intolerance towards adult members of their own sex and also an attachment to a certain area that does not overlap with other home ranges. Family groups move in certain specific home ranges and their attachment to these areas is clearly noticeable. Territorial behaviour promotes the even distribution of the population and in this way offers some protection to the animal. Territoriality is a prerequisite for successful reproduction since a male cannot mate successfully, even though it is sexually mature, unless it maintains a territory. This pattern of behaviour ensures that the most suitable males are allowed to breed, since handicapped males which are too young or too old cannot protect a territory.

A male oribi establishes its territory by means of gland secretions and dung heaps. Secretions of the pre-orbital glands are deposited in the following manner: a grass flowering stem is bitten off at a height of approximately 60 cm by an upward movement of the male's head. The remaining part of the stem is brought into contact with the pre-orbital gland, and a small quantity of black secretion, which has a salty odour, is deposited onto the stem. Although both sexes possess these glands, only the males mark territory boundaries. Through regular marking the male can move with assurance in its territory and its distinctive odour serves as a warning to other males against entering its territory.

During feeding the oribi shows a high rate of selectivity not only for various plants but also for various parts of the plants. They predominantly feed on grass and also herbs and can, therefore, be considered mixed feeders. Feeding takes place at all hours of the day or night. The majority of oribi grazes in the early morning and late in the afternoon, while the chewing of the cud takes place only while they are lying down.

A single lamb is born after a gestation period of 7 months. The lambing period lasts from November to February although lambs are occasionally born later in the season. At birth the lamb's colour is considerably darker than that of the adults. At first the lambs are seldom seen as they lie hidden and only appear for short periods to suckle. After a period of approximately 3 months the juvenile oribi is more often seen in the company of the family group.

In South Africa and South-West Africa the oribi is at present protected by law. Attempts are being made to re-establish this species of antelope in its original natural habitat. Research is being conducted by the Transvaal Nature Conservation Division to determine the habitat requirements and limiting factors of the oribi in order to ensure the future existence of this very attractive inhabitant of the Highveld.

A typical family group consisting of a ram and two ewes.

photographs by p. c. viljoen.

know your ordinance

It has been decided to introduce a regular column which will discuss, in simple terms, the basic elements of Ordinance No. 17 of 1967, which is commonly known as the Transvaal Nature Conservation Ordinance. There is a definite need for this column as few people possess a copy of the Ordinance, and fewer still are familiar with its contents. Anyone who wishes to obtain a copy is advised to contact the Chief Accountant, Private Bag X225, Pretoria. The cost of the Ordinance is 50c.

The aim of the Nature Conservation Ordinance is to provide the Administrator with a means of improving, controlling and administering the conservation of game, fish and flora in the Province. The actual enforcement of the Ordinance is the task of the Division's Law Enforcement Section, the Police and also the various Honorary Nature Conservation Officers. The latter are members of the public who are appointed by the Administrator to apply certain provisions of the Ordinance on a voluntary basis. One of the biggest problems that the Nature Conservation Officers have to contend with is the size of the districts under their control, which they cannot hope to patrol adequately. They rely, therefore, to a large extent on notifications of transgressions by members of the public. You can assist in conserving the country's fauna and flora by knowing your ordinance, by knowing the telephone number of your district's Nature Conservation Officer, and by reporting transgressions to him.

Specially Protected Plants

Common name	Scientific name
All species of Cycads	Genus *Encephalartos*

Protected Plants

Common name	Scientific name
all species of tree moss	Genera *Porothamnium, Pilotrichella* and *Papillaria*
all species of ferns other than the bracken fern	Division Pteridophyta except *Pteridium aquilinum*
all species of yellow wood	Genus *Podocarpus*
all species of wild cypress	Genus *Widdringtonia*
borassus palm	*Borassus flabellifer*
all species of arum lilies	Genus *Zantedeschia*
all species of agapanthus	Genus *Agapanthus*
all species of aloes	Genus *Aloe*
all species of chortolirion	Genus *Chortolirion*
all species of dracaena	Genus *Dracaena*
all species of pineapple flower	Genus *Eucomis*
all species of galtonia	Genus *Galtonia*
all species of gasteria	Genus *Gasteria*
all species of flame lilies	Genus *Gloriosa*
all species of haworthias	Genus *Haworthia*
all species of red-hot pokers	Genus *Kniphofia*
all species of christmas bells	Genus *Littonia*
blue squill	*Scilla natalensis*
ground lily	*Ammocharis coranica*
fire lily	*Anoiganthus breviflorus*
pink brunsvigia	*Brunsvigia radulosa*
all species of clivia	Genus *Clivia*
all species of crinum	Genus *Crinum*
all species of fire lily	Genus *Cyrtanthus*
all species of paint brush	Genus *Haemanthus*
all species of nerine	Genus *Nerine*
all species of elephant's foot	Genus *Dioscorea*
all species of babiana	Genus *Babiana*
wild montbretia	*Curtonus paniculatus*
all species of hair bells	Genus *Dierama*
all species of wild iris	Genus *Dietes*
all species of wild gladioli	Genus *Gladiolus*
all species of lapeirousia	Genus *Lapeirousia*
river lily	*Schizostylis coccinea*
all species of watsonia	Genus *Watsonia*
wild banana	*Ensete ventricosum*
transvaal strelitzia	*Strelitzia caudata*
ginger	*Kaempferia aethipoica* *Burmannia madagascariensis*
all species of orchids	Family Orchidaceae
pincushion	*Leucospermum gerrardii*
all species of proteas	Genus *Protea*
stone plant	*Frithia pulchra*
all species of stone plants	Genus *Lithops*
all species of water lilies	Genus *Nymphaea* and *Brasenia schreberi*

Protected plants

The term "Protected Plant" includes any species of plant, shrub or tree which is indigenous to the Republic or South-West Africa (whether it is or has been cultivated or whether it is no longer growing in the wild state). It also includes the flower, seed, bulb, tuber, stem or root or any other part of such plant, shrub or tree. Any plant, shrub or tree declared a weed under any law does not receive protection.

Protected plants are plants that have been declared protected by the Administrator.

No person may pick any protected plant

unless he is the holder of a permit issued by the Administrator. The owner or occupant of land, the parent, spouse, child, grandchild or son-in-law of such owner may

(a) pick the flower of a protected plant;

(b) pick a protected plant on that portion of privately owned land which is required for cultivation, erection of a building, construction of a road, dam etc. if it proves necessary to remove plants;

(c) remove plants for the purpose of grazing, the making of hay, veld burning or any other bona fide farming purpose;

(d) pick a protected plant which is planted on land specially set apart for the cultivation of such protected plant.

What provisions apply to the buying and selling, or possession as a result of donation of protected plants? Protected Plants may only be removed from the veld, transported, imported or exported if a permit has been issued. Plants received consequent upon donation from a private garden may be transported, and a letter of donation is regarded as a valid permit. No permit is required to keep Protected Plants.

Common name	Scientific name
wonder plant	*Tinospora fragosum*
black stinkwood	*Ocotea bullata*
stinkwood	*Ocotea viridis*
transvaal teak	*Pterocarpus angolensis*
tambootie	*Spirostachys africana*
baobab	*Adansonia digitata*
all species of begonia	Genus *Begonia*
all species of cabbage tree	Genus *Cussonia*
heath	*Erica oatesii*
red hairy heath	*Erica cerinthoides*
heath	*Erica alopecurus*
big leaf	*Anthocleista grandiflora*
impala lily	*Adenium obesum*
impala lily	*Adenium oleifolium*
rathbonia	*Adenium swazicum*
kudu lily	*Pachypodium saundersii*
all species of brachystelma	Genus *Brachystelma*
all species of caralluma	Genus *Caralluma*
all species of ceropegia	Genus *Ceropegia*
all species of ghaap	Genus *Decabelone*
all species of duvalia	Genus *Duvalia*
all species of huernia and huerniopsis	Genera *Huernia* and *Huerniopsis*
all species of riocreuxia	Genus *Riocreuxia*
all species of stapeliads	Genus *Stapelia*
all species of stultitia	Genus *Stultitia*
all species of cape primula	Genus *Streptocarpus*
barberton daisy	*Gerbera jamesonii*

All species of Cycads are considered Specially Protected Plants. No person may possess, pick, sell, buy, donate, receive consequent upon a donation, import into or convey within the Province, export or remove from the Province any specially protected plant unless he is the holder of a permit issued by the Administrator, whereby he is authorized to do so.

What happens to a person who is caught contravening the Ordinance? Any person who contravenes or fails to comply with the provisions as laid down shall be guilty of an offence and liable on conviction to a fine not exceeding R200, or to imprisonment for a period not exceeding 6 months, or to both such fine and imprisonment.

A spoonbill at its nest.

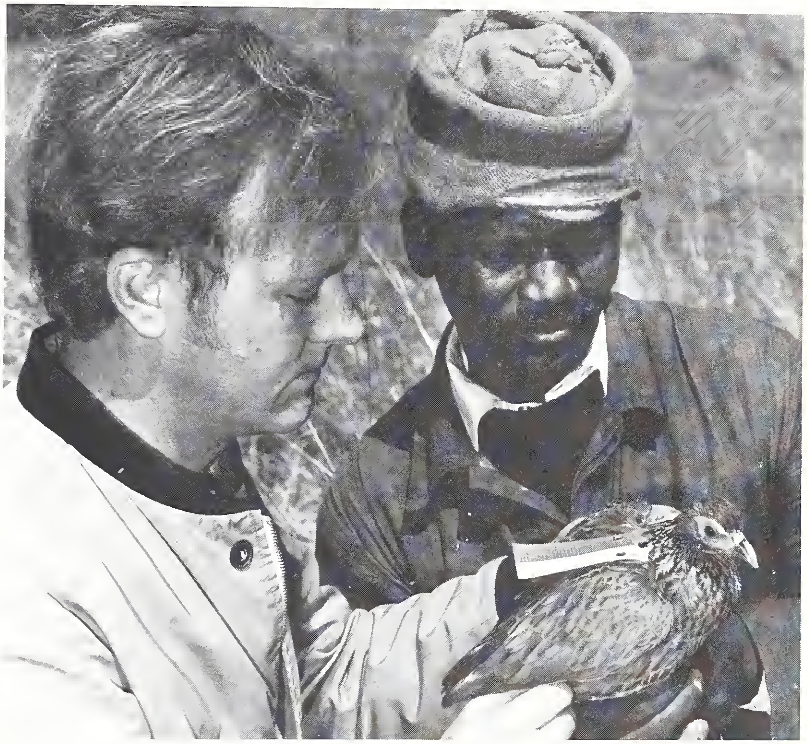
nature notes

game bird research

The demand for game-bird hunting in the Transvaal continues to rise year by year. In 1966 a total of 27 517 permits for hunting game-birds was taken out by non-landowners in the Province; in 1974 the figure was 74 347, an increase of 170 per cent over 8 years. Since landowners are not required to take out permits for shooting game-birds, the actual number of hunters in the field during the course of a year is not known. More than half of the issued permits list the guineafowl as the most important species.

To meet the demands for better and more precise knowledge of the Province's game-birds, the Nature Conservation Division carries out ecological field research on several species. A project on the Orange River francolin is now nearing completion – this attractive game-bird has shown a considerable decline in numbers over the years, probably as a result of habitat changes. Population ecology is an important field of research, and the Division's research officers spend much time on trapping and marking birds so that their subsequent fate and mortality rates can be measured.

In this photograph a research officer has attached a tough plastic streamer onto a Swainson's francolin prior to releasing it into the veld.



greater protection for birds

As in the case of all other wild animals, birds are classified in three categories in the Nature Conservation Ordinance, namely protected game, ordinary game (in this case game-birds) and wild animals.

In terms of a notice in the Provincial Gazette of the 27th March 1974, all kinds of birds were declared protected game, except those kinds of game-birds that were declared ordinary game, and some other kinds that may be harmful to agriculture and have, therefore, retained the status of wild animals. The latter cited in the adjoining list may be hunted without licence provided written permission has been obtained from the landowner.

Common Name:	Scientific Name:
Turtle Dove	*Streptopelia capicola*
Laughing Dove	*Streptopelia senegalensis*
Red-eyed Bulbul	*Pycnonotus nigricans*
Black-eyed Bulbul	*Pycnonotus barbatus*
All kinds of Mousebirds	Family Coliidae
Pied Crow	*Corvus albus*
Black Crow	*Corvus capensis*
Red-winged Starling	*Onychognathus morio*
Cape Sparrow	*Passer melanurus*
Spotted-backed Weaver	*Ploceus cucullatus*
Cape Weaver	*Ploceus capensis*
Masked Weaver	*Ploceus velatus*
Red-billed Quelea	*Quelea quelea*
Red Bishop Bird	*Euplectes orix*
White-Breasted Cormorant	*Phalacrcorax lucidus*
Reed Cormorant	*Phalacrocorax africanus*

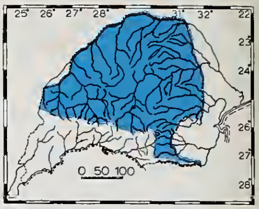
The following game-birds are classified as ordinary game and may be hunted under licence during the hunting season:–

- Spurwing Goose
- Yellow-billed Duck
- All kinds of francolins
- Crowned-guineafowl
- Rock or Speckled Pigeon
- Egyptian Goose
- Red-billed Teal
- All kinds of sandgrouse
- Red-knobbed Coot

All birds not listed here are now classified as protected game and enjoy complete protection. They amount in toto to 842 species or 96% of all species of South African wild birds.

freshwater eels

dr. e. j. kruger



The term "freshwater" eel is in a sense a misnomer for eels are actually sea fishes which migrate to fresh water to develop to maturity.

Eels are found along the whole of the eastern coast of the African continent but do not occur south of the equator off the west coast. They occur only in the east-flowing river systems of the Transvaal and other provinces. Exceptional cases of eels occurring in the west-flowing Vaal River system have been reported, but these fish somehow must have crossed the watershed.

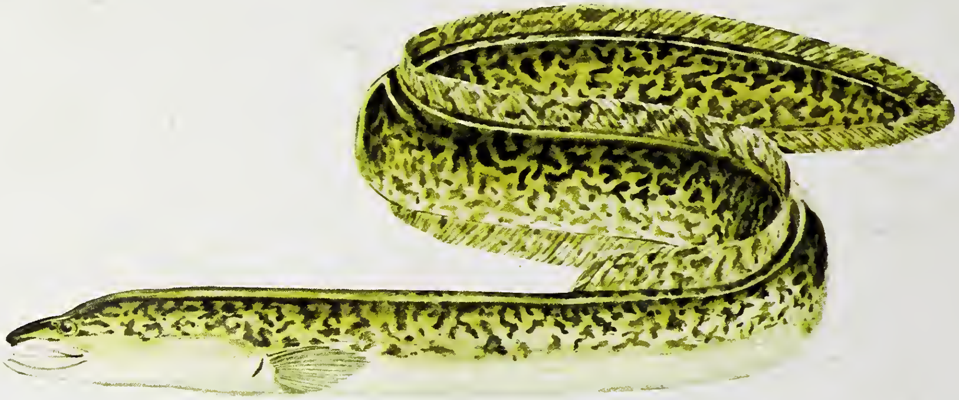
Three species of eel can be distinguished in the Transvaal, namely the Madagascar mottled eel *Anguilla marmorata,* African mottled Eel *A. nebulosa labiata* and the black eel *A. mossambica*. The two species of mottled eel can be identified by measuring the distance between the anterior end of the dorsal and ventral fins. Should this length comprise 16 to 19 per cent of the total body length, then the species is a Madagascar mottled eel, while a distance of 7 to 14 per cent identifies the African mottled eel.

All eels caught by anglers in the interior are without exception females, because the male fish only move upstream for a distance of a few kilometres from the river-mouths. The Madagascar mottled eel attains the heaviest weight of all three species; a heavy specimen weighing 25 kg was recently caught in the Crocodile River. The black eel seldom attains a weight of more than 5 kg. The swimming movements are typical S-like coiling movements, but the fins do not play an active role as in the case of other species of fish. Their diet consists mainly of insect larvae, small crabs and fish fingerlings.

There is still no certainty on the specific spawning locality of African eels, but indications are that the location is east of the island of Madagascar, possibly in the area 10 to 20° S latitude and 60 to 70° E longitude. Eels breed in very deep waters (400–600m) and the eggs float freely. As soon as the eggs hatch the larvae are known as protoleptocephali and have a leaf-like appearance. The south equatorial sea current flowing in a westerly direction transports the larvae north and south of Madagascar to the east coast of Africa. Eel larvae take approximately 1 to 3 years to change into elvers (glass eels) that enter the river-mouths. The length of this transformation period apparently has a significant influence on the geographical distribution of the different species of eels.

Eels are of considerable economic importance in America, Europe and Asia. For example, some 1000 metric tons were caught in America and 17 000 metric tons in Europe in 1965.

Madagascar mottled eel   Anguilla marmorata



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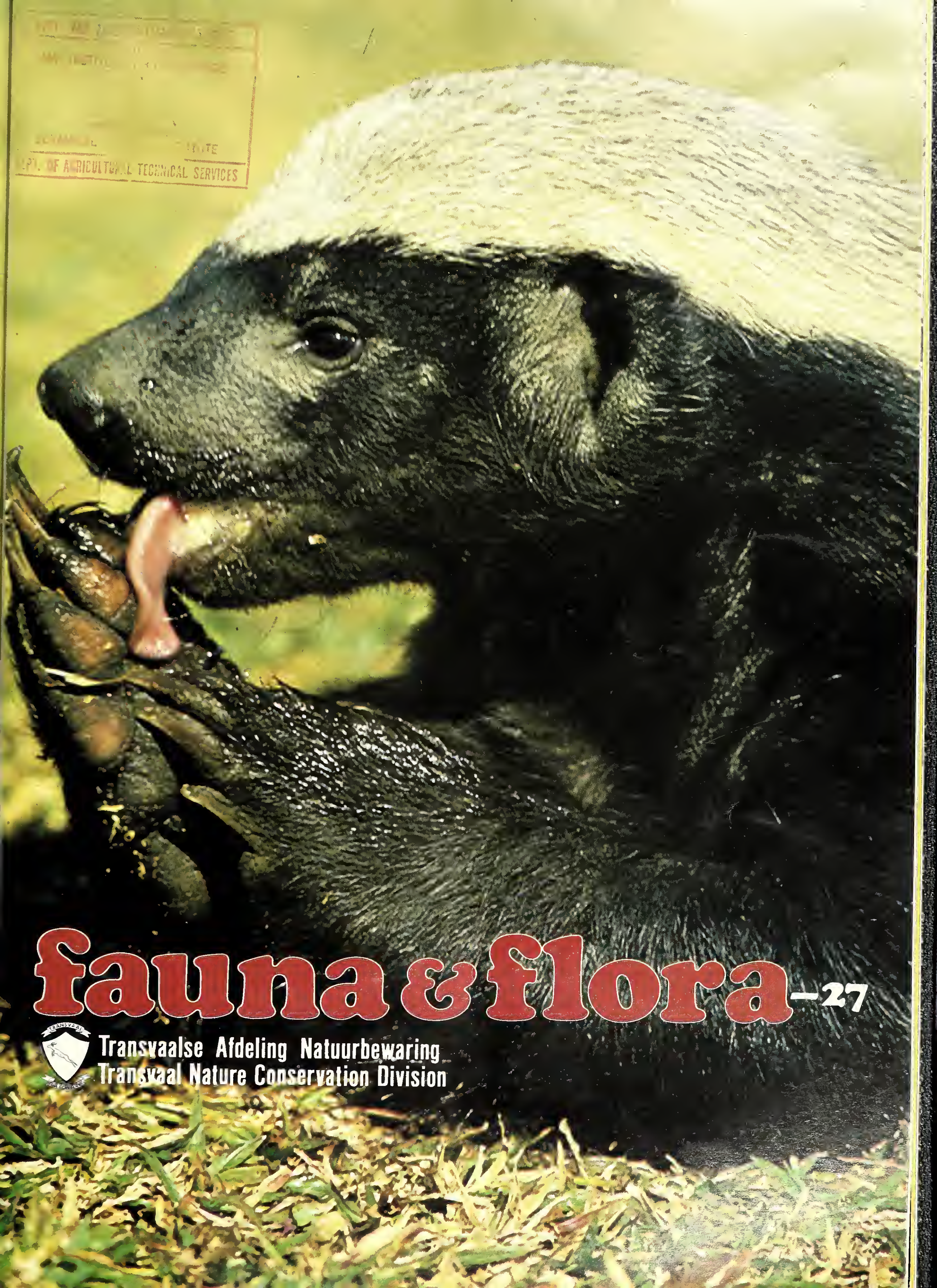

fauna & flora — 27

Transvaalse Afdeling Natuurbewaring
Transvaal Nature Conservation Division

TRANSVAAL NATURE CONSERVATION DIVISION
NUMBER 27

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Fauna & Flora is an occasional publication of the Transvaal Nature Conservation Division and is published in English and Afrikaans at the Division's Head Office, Church Street, Pretoria.

SUBSCRIPTION is free on written request to: The Director, Transvaal Nature Conservation Division, Private Bag X209, Pretoria, Transvaal, Republic of South Africa, 0001.

ISBN

Printed in the Republic of South Africa by Everton Offset (Pty) Ltd.

state dams

S.S. du Plessis

Although the dams built by the State are primarily intended for the storage of water, most of them also play an important role in outdoor recreation. But since this is not a function of the Department of Water Affairs, it has largely been neglected in the past.

After the Provincial Administrations had assumed responsibility for outdoor recreation, the Minister of Water Affairs wisely decided to entrust them with the control of state dams for nature conservation and outdoor recreation.

How, it may be asked, does this new responsibility fit in with the Nature Conservation Division's functions? The reply is that it fits in very well. In the first place the control of sport fisheries is one of the Division's functions and since state dams are the most important angling waters, the Division is now in a much better position to exercise effective control.

A good deal of state land is associated with state dams, and this makes it possible to combine outdoor recreation with nature reserves. Not only does this provide an additional attraction at a dam, but it results in meaningful planning on an economic basis.

The basic requirement for outdoor recreation is a natural environment. For this reason nature conservation is a prerequisite for such recreation as is practised at state dams.

Since state dams provide suitable habitats for aquatic birds if they are not disturbed too much by visitors, it is necessary to establish suitable refuges for them on the dams.

On the other hand it must be acknowledged that the control of state dams by the Nature Conservation Division involves it in organized aquatic sports such as boating, water-skiing, canoeing, rowing and sailing, all of which are within the jurisdiction of the Department of Sport and Recreation. But there is good co-operation between the two bodies.

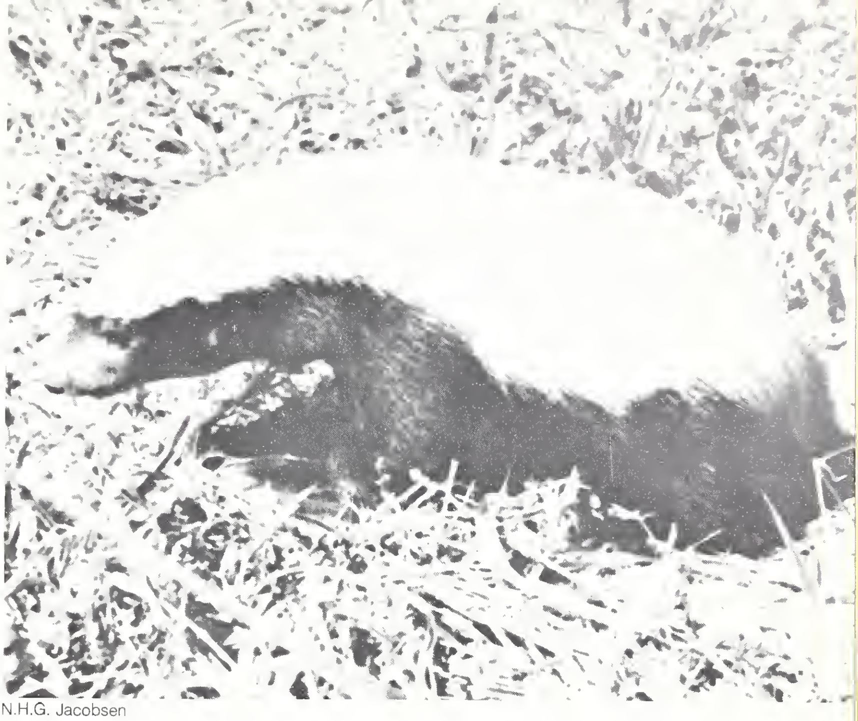
What can be more beautiful than a glittering water surface on a warm summer day? Is it any wonder that human beings are attracted to water like a magnet? This is clearly shown by the steadily increasing stream of visitors to state dams. One wonders whether the position has not already been reached at the Hartbeestpoort and the Roodeplaat Dam where outdoor recreation has become the most important use of water.

Now that the public is less mobile, owing to fuel restrictions, state dams have become still more important in the Transvaal. The motorist who liked to spend a weekend in the Kruger Park or the eastern Transvaal will now have to think of fishing at the Hartbeestpoort Dam. Even the more distant dams will in the course of time become the best alternative to a summer vacation at the sea.

State dams have already become so important for outdoor recreation that it will no longer be possible to ignore this aspect when new dams are planned.

N. Zambatis

the honey badger— a tough customer



N.H.G. Jacobsen

A Badger finds a possible meal.

The honey badger *(Mellivora capensis)* is a stockily built animal with a very loose, tough skin covered with coarse hair. The coat is strongly contrasting in colouration. The upper parts from the crown of the head to the tail are whitish, sometimes toning from grey to buff or brown, particularly on the hindquarters and the tail is mostly black. A lighter lateral line extends from the crown of the head along the sides of the body to the tail or the hindquarters, forming a distinct demarcation between the greyish upper parts and the black underparts, face and legs. This line is broad in the southern forms, narrow in the more northern forms and absent in the Arabian and Indian forms.

Specimens collected in various parts of Africa show a very large variation in the extent of the upper mantle. In some races it runs from the nape of the neck to the tail, while in others, especially those from the dense humid forests of tropical Africa, the mantle is limited in extent, sometimes to the neck. Pure black specimens have been recorded from the Ituri forest in Zaire, but this is probably an individual variation known as a melanistic form. The young are rusty-brown above with no paler dividing line between the darker underparts.

The honey badger has a relatively massive head with small rounded ears and small eyes. The legs are short and the feet have long claws, the second to the fifth claws of the forefeet being very long, curved and powerful. The short bushy tail is frequently held upright, in line with, or slightly lower than the body as the animal trots about with its head held forward and somewhat low as it searches for food.

For its ferocity and fearlessness the honey badger is surprisingly small. The head and body length varies from 68-81 cm, the tail being an extra 20-25 cm, giving it an over-all length of 85-100 cm. The shoulder height varies from 25-30 cm and the mass varies from 10,5-11,5 kg.

The honey badger belongs to a large order, the Carnivora, which in South Africa is represented by widely differing species such as, the lion, leopard, cheetah, hyaenas, wild dog, jackals, otters, genets, mongooses and others. The order is further divided into families and the honey badger is placed in the family Mustelidae. Members of this family have in common a small to medium size, walk on the soles of the feet (plantigrade), have a reduced number of highly specialized teeth and special scent glands in the anal region. Despite their superficial resemblance to the true badgers of the Old World (Europe, U.S.S.R. and Asia) and North America, authorities regard the honey badger as being more closely related to the weasel and polecat group of this family. Other members of the Mustelidae are the otters, polecat and the snake weasel.

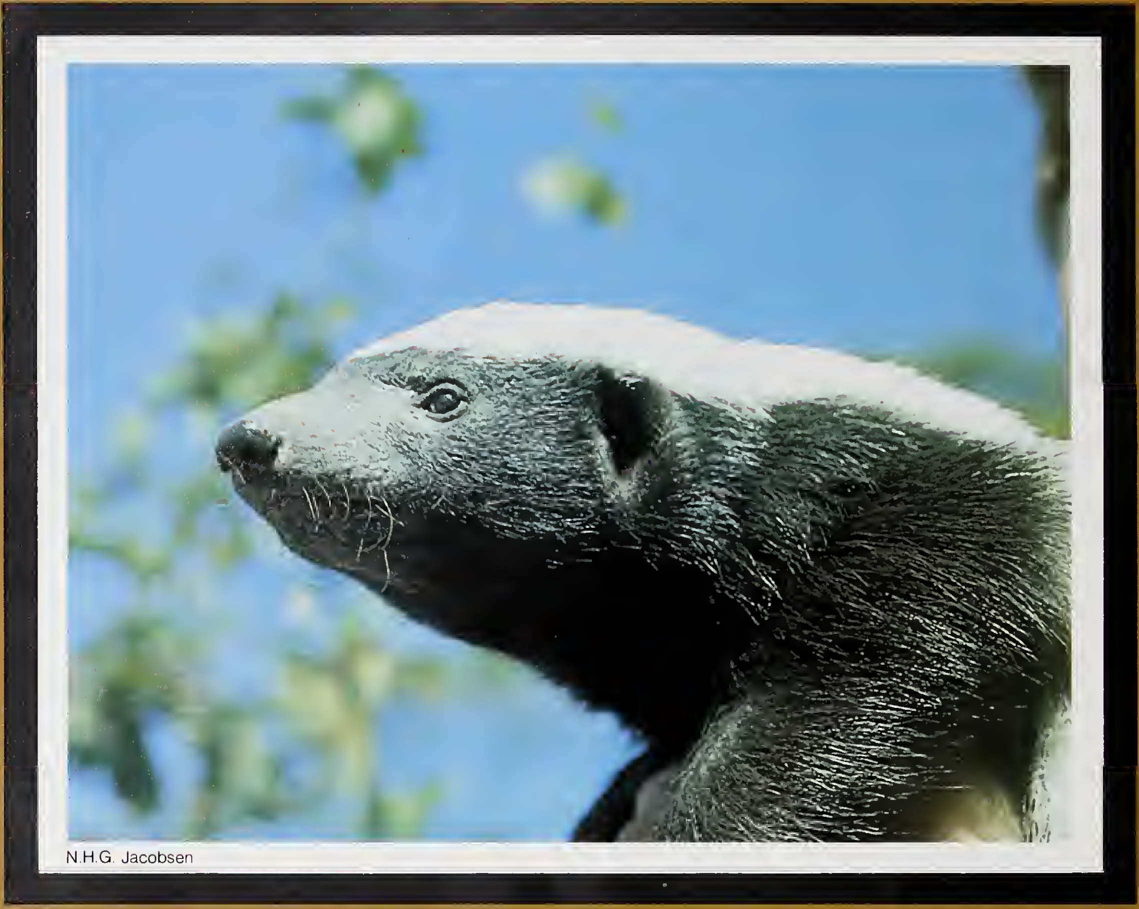
Though rarely seen, the honey badger is distributed throughout southern Africa in suitable habitats. It does not occur over much of the South African Highveld, preferring bush country, wooded hillsides, river-banks and dense forest (Central Africa) and is thus seldom found in open country. Further afield it occurs over the greater part of Africa, south of the Sahara, from Senegal and the Sudan to the Cape Province of South Africa. It also ranges across Asia from Arabia and Turkestan to India. As a result of man's increasing and expanding population, the honey badger is nowhere common and becoming rarer.

Mainly a nocturnal animal, the honey badger is sometimes also seen moving about in daylight, either singly or in pairs, except when the young are taken out by their parents. Two daylight sightings were made by the writer in the Sabie-Sand Game Reserve in the eastern Transvaal Lowveld. Both were made under overcast conditions, one in the early morning and the other late in the afternoon. In both cases a pair was seen and they were both searching for food.

The honey badger lives in holes, caves, rocky koppies, cracks and crevices and is capable of digging deep burrows with its powerful claws. It may also use aardvark *(Orycteropus afer)* holes and it lives singly or in pairs.

As its name implies, it is fond of the honey of wild bees and their larvae. It is capable of climbing trees to reach beehives in spite of its apparently heavy bulk. An underground hive will be dug out ruthlessly, the badger apparently ignoring the infuriated masses of bees attacking it.

An interesting association is reported between the honey badger and the greater honey-guide *(Indicator indicator)*. This little bird guides the honey badger to a hive by uttering a harsh rattling call while it flies



A close-up photograph of a Honey Badger.

from perch to perch, eventually leading the honey badger to the hive. Once the hive has been located by the badger, the bird is silent and waits its turn to feed. The evidence for this behaviour is based mainly on the reports of Africans; there are very few eye witness reports by naturalists. Honey badgers are not dependent upon the greater honey-guide for finding beehives.

By nature the honey badger is shy and retiring. It will, however, not hesitate to engage in a fight with any adversary if provoked. The late Mr. C.T. Astley Maberly in his book "The Game Animals of Southern Africa" says, . . . "It will not hesitate to fight gamely against the most impossible odds if attacked or interfered with; and once engaged in such a struggle nothing short of death will overpower it."

It is regarded as one of Africa's most courageous smaller animals and will give a good account of itself if attacked by a pack of dogs. Dr. Reay Smithers recalls an incident in Botswana where a honey badger, caught in a live-trap, ripped its way out and returned to further mangle the trap and eventually destroy it.

It is also reputed to be a fearless and deadly foe of snakes and its leathery skin is said to be impervious to the fangs of snakes and bee-stings.

Apart from its fearless nature, the honey badger has a body built for fighting. The thick skin is so loose that wherever an attacker gets a grip, the honey badger is capable of turning and biting it. Below the skin is a thick layer of fat that also protects it. The teeth and claws are very powerful and together can inflict serious wounds.

In the breeding season the honey badger is particularly aggressive and has been known to attack big game. Col. Stevenson-Hamilton, pioneer warden of the Kruger National Park, records wildebeest, waterbuck and even buffalo bulls found dead with their testicles torn out and the animals having bled to death as a result. He suggests that as none of the carcasses were fed on, the animals were attacked and killed by a honey badger in resentment

N.H.G. Jacobsen

Foraging for food.

for being disturbed. It has been said that it will attack a human being in the same way, but no reliable evidence is known as proof of this method of defence.

Like its other relatives in the family, the honey badger is capable of secreting a strong-smelling liquid from the anal glands which, together with a high-pitched scream-bark, is a further aid in deterring an enemy. It may also growl or grunt.

Apart from honey and bee larvae, the honey badger has a very varied diet, feeding on insects and larvae of many kinds, termites, scorpions, spiders, small reptiles, tortoises, wild fruits, certain roots, young birds and eggs. It has also been recorded as feeding on fish from pools that were drying up. Smaller mammals such as rats and mice are also eaten and it has been reported to attack new-born kudu and the leguaan (monitor lizard) and is suspected of an attack on a fully grown kudu. A record exists of a honey badger in the Kruger National Park attacking a 3-metre python. An intense fight was apparently put up by both animals, but the python eventually succumbed and was badly bitten over most of its body. The honey badger then fed on its kill.

Though not a swift runner, the honey badger has great powers of endurance and this enables it to carry out a prolonged pursuit of larger prey until the latter is exhausted and then captured.

Dr. Reay Smithers states that it will dig for water when this is not otherwise available.

The breeding habits of the honey badger are largely unknown. This is because it is seldom seen as it is mainly a nocturnal, underground animal. Because of this, any study of its breeding habits under natural conditions would be extremely difficult to undertake. It is known, however, that after a gestation period of 180 days, two young are usually produced underground or in a rock crevice. There may be two litters per year. Breeding is probably not seasonal and mating has been observed in the Kruger National Park in February, June and December, while juveniles have been seen in February and March.

A male African Jacana carrying a chick under its wing. W. Tarboton

Warwick Tarboton

Notes on South African jacanas

The two kinds of Jacanas occurring in the Transvaal are members of a small but highly distinctive family of birds that inhabit the tropics of the world. There are seven species, characterized by having extraordinarily long toes and claws that enable them to walk on water-lily pads and floating vegetation growing on pans and dams. Because of this habit they are sometimes known as Lily-trotters or Lotus Birds. The name Jacana is apparently derived from the Brazilian name given to the species occurring in Tropical America.

In the warmer parts of the Transvaal the larger African Jacana *(Actophilornis africanus)* occurs commonly wherever there are suitable lily-covered dams and vleis or lily-fringed rivers. The newly proclaimed Nylsvley Nature Reserve near Naboomspruit has large areas representing this type of habitat and supports a population of a hundred or more in the wet season.

The Lesser Jacana *(Microparra capensis)* is, in contrast, a much less common bird and is irregular and unpredictable in its occurrence. Both species are absent from the Highveld, apart from sporadic appearances made by wandering birds, such as occurred some years ago when a number of Lesser Jacanas spent several months on a pond close to Kempton Park's industrial area and were the subject of much attention by local bird-watchers.

The adult African Jacana is a very distinctive bird with its maroon-brown back and underparts, black mask and blue frontal shield. Young birds differ by being a paler sandy-brown above and having entirely white underparts from throat to undertail coverts. They also lack the blue frontal shield of the adults and have a white stripe above the eye, thus superficially resembling an enlarged version of the Lesser Jacana (for which they are often mistaken).

African Jacana males and females are indistinguishable from one another by their plumage, but they differ appreciably in size and when seen side by side this difference is readily apparent. It is perhaps surprising to note that it is the female which is the larger of the two and that she is about twice as heavy as the male. This size difference has also been recorded in Jacana species from other parts of the world and is coupled with an interesting phenomenon, which has been the subject of detailed studies, namely that of polyandry. Polyandry is a rare form of social organization in birds in which one female is mated simultaneously with two or more males during the breeding season. In the Jacana species where this has been studied, it is coupled with a reversal of the roles of the sexes in that the male builds the nest, incubates the eggs and raises the young. Both these features — polyandry and reversed sexual roles — appear to apply to African Jacanas as well.

African Jacanas are found in the Nylsvley Reserve and the surrounding vlei areas throughout the year, scattered widely over temporarily flooded areas during the rainy season and concentrating at suitable ponds when the surrounding areas dry out in winter. They breed here in summer, mostly between November and February, when temporary vleis are forming and it is to these that the young of the year disperse when they become independent. Favoured nesting sites are along the lily-covered fringes of dams; one such locality at Nylsvley had eleven simultaneously occupied nests in a recent wet season. It was evident that the population here was polyandrous: one female, recognized by her large size, occupied the northern edge of the dam and drove off any other females that attempted to alight there. However, she tolerated and associated with the two males (recognized by their small size) that had nests along the strip. She played no part in incubating the eggs, and when the males left their nests to feed, the eggs were left unattended. These males maintained "mini-territories" around their nests and each kept its neighbouring male out but allowed the female to walk through without concern.

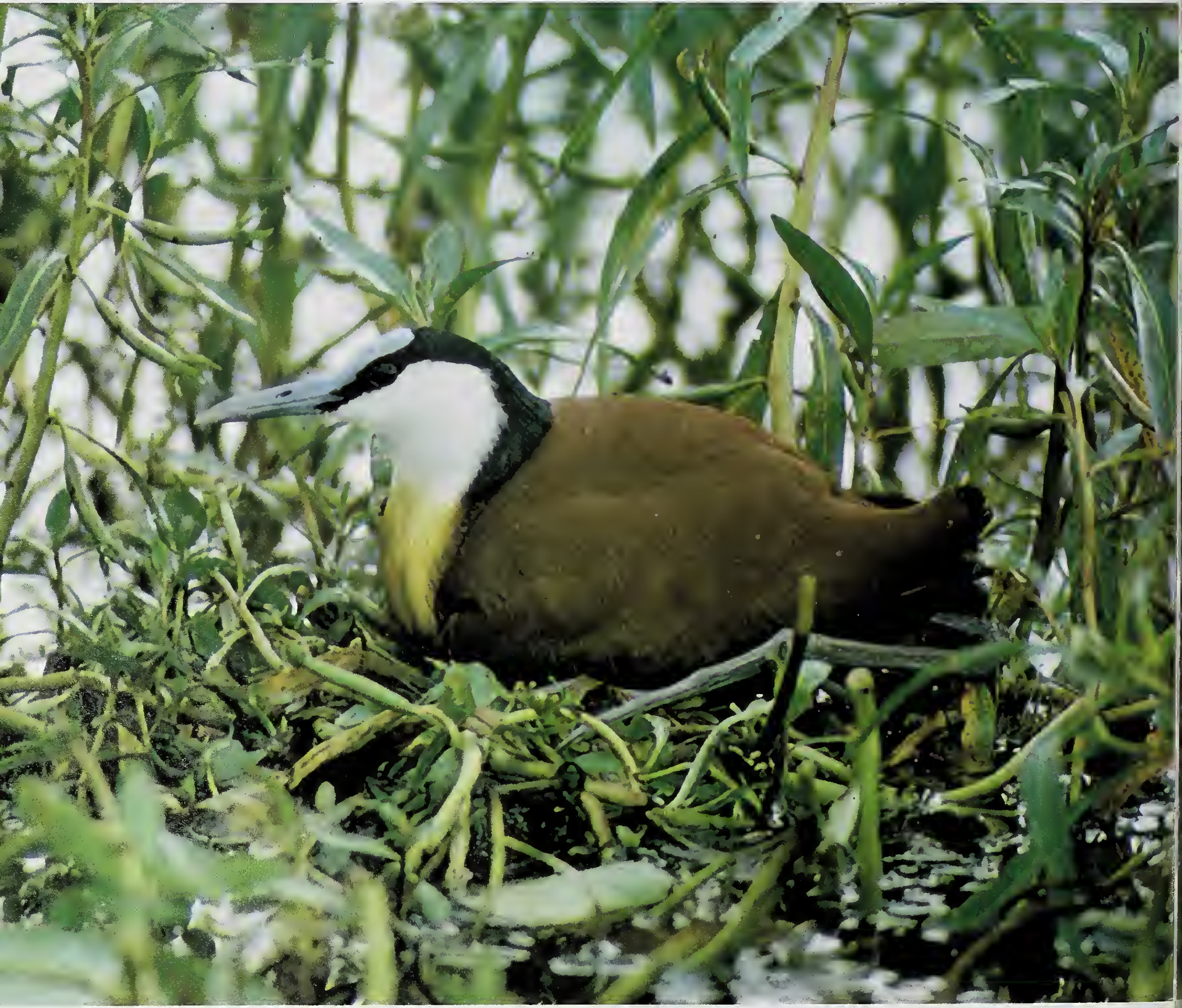
The Jacana nest is as remarkable for its scantiness as the eggs are for their striking beauty. The nest is no more than a handful of water-logged weed stems drawn together and though it is added to continuously during incubation, the nest never aspires to anything more than this. At one nest that we watched, the water-level rose 30 cm during the incubation period and the nest floated free as it rose. Eventually it stood clear of the vegetation in which it had been hidden. The eggs have a highly polished appearance giving them a "wet-look"; the survival value of this has been ascribed to an improved water repellency on the one hand and cryptic colouration on the other, since their shiny appearance blends well with the wet surroundings.

African Jacana eggs take about 24 days to hatch. The young leave the nest and are active within hours of hatching and are among the most precocious of birds. They resemble small striped mice walking on stilts, due to their disproportionately large feet and toes. They follow the male around as he forages on the lily-pads and are frequently brooded by him just at the spot where they happen to be. It is a comical sight to watch as he attempts to gather his brood under him — there is inevitably one chick that won't stay put, or else the lily-pad he chooses sinks under their combined load. It becomes even more hilarious when he gathers them up under this wings, as he frequently does in the presence of danger, and all that betrays their presence is the spaghetti-like bundle of legs hanging out under his wings. If caught unawares, the chicks dive into the water, usually under vegetation and they lie immobile with only the tops of their heads above the water. The young as well as the adults are capable of swimming and cross open stretches of water between vegetation in this manner. As they grow and start ranging further from their nest site, they start infringing on neighbouring territories; at this stage the family party usually moves out onto "communal" ground not staked out by territory-holding birds.

The fledgling period has not been accurately established but would appear to be about a month.

Jacanas are predominantly insectivorous, picking small aquatic insects and their larvae off the surfaces of lily-pads as they move easily across the leaves. Sometimes

W. Tarboton



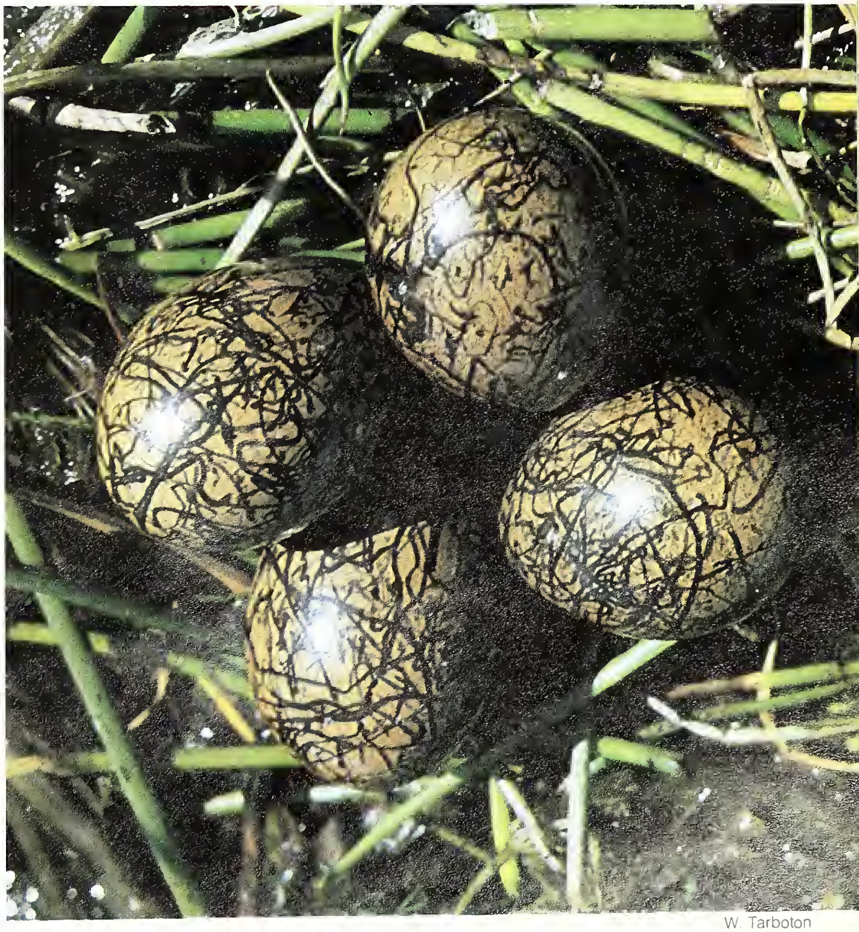
An African Jacana sitting on eggs.

they can be seen picking and pulling at a dead water-lilly flower, and this suggests that they also eat seeds or vegetable matter from this source.

There is much to be learnt about our Jacanas and because of their very unusual social organization they are particularly worthy of study. They show a high degree of adaptation to their aquatic habitat and despite their vulnerable nests that appear so open to predators and at the mercy of the weather, they enjoy high breeding success. The threat that faces them lies not in persecution or predation but in destruction of their specialized habitat, in draining and spraying of vleis for mosquitoes, or more insidiously, from polluting our waters and destroying the life that they support.

An African Jacana chicken.

W. Tarboton



A typical clutch of four eggs of the African Jacana.

W. Tarboton

S.S.du Plessis

Laughing doves at my window

P. Barichievy

The Laughing Dove at its nest.

I am privileged to have in front of my window at the Head Office of the Nature Conservation Division a giant aloe *(Aloe bainesii)*, that reaches up to my window on the middle floor. One day in January 1974 I looked out of the window and saw that two Laughing Doves had built a nest on a leaf of the aloe and had started to breed. The couple had two eggs but succeeded in rearing only one chick; the other one had evidently fallen out of the nest.

Naturally I did not have much time to devote to them, but nevertheless made a few interesting observations. I noticed, for instance, how the two relieved one another at the nest; in other words male and female participated in the function of breeding. I was also surprised that the little ones had to spend the whole day in the nest without being fed. Our photographer, who wanted to take a photo of the parents feeding the young, waited the whole day, almost until sunset, for this moment. It was unfortunately not possible to determine whether the chicks were fed early in the morning, before office hours.

Hardly a week after the full-grown chicks had left the nest there appeared an egg in the nest on February 14. Except for a break in May the pair continued breeding until August, six times altogether. The eggs hatch after 12 days and the chicks leave the nest after three weeks. Sometimes both chicks were reared, sometimes only one. The second one usually disappeared after two weeks.

Except for the pause in May, only one week elapsed after the previous brood had left the nest before the new eggs appeared.

Things went wrong with the sixth brood. On August 19 they were breeding again, but on August 26 the leaf on which the nest was built began to sag. The couple tried to save the nest by hurriedly adding sticks, but to no avail; the eggs rolled out of the nest and it had to be abandoned. This signified the end of an almost unbroken period of breeding from the middle of January until August 26. I wondered whether this is normal, but nobody knew. Perhaps the fact that the Head Office staff provided them with food contributed to this unusual achievement.

CONTROL OF TICKS IN WILDLIFE

A. M. Harthoorn

Ticks may present a great problem in restricted wild animals. This is particularly true in this country, where nature reserves are usually areas that have been degraded by cattle and where the ecological balance has been disturbed.

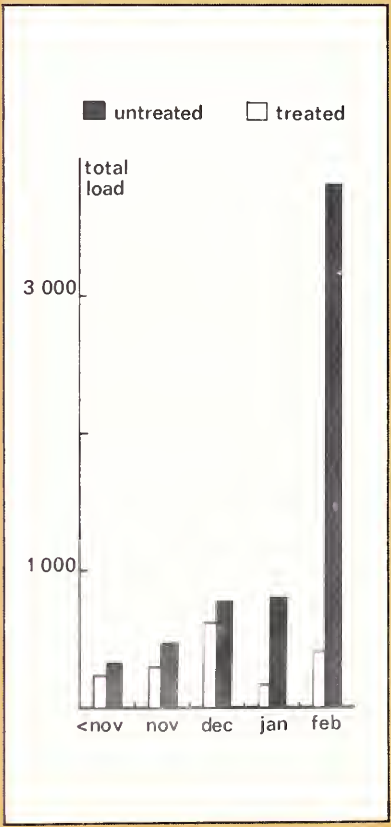
As in other cases where poisonous substances have been used in the attempted control of insect pests, and where the biological controlling factors have been destroyed, rather than the pest itself, control necessitates ever more numerous destructive sprays, so that ticks can be controlled on cattle only by a continuous series and variation of dips. These comprise poisons such as arsenic and chlorinated hydrocarbons that are lethal to evolved life and damaging to the ecology, poisoning the ground and the water supplies. Due to this destruction of natural controlling factors, ticks tend to swarm when dipping is discontinued.

Eland appear to be particularly prone to infestation by ticks. Not only do these animals present a distressing sight when covered with these parasites, but their body condition also deteriorates. The ears are frequently badly damaged or destroyed and the animals may die of the resultant abscesses. The teats may become so damaged that the young are unable to suckle and die unless the new-born calf is caught and hand-reared.

Ticks also carry many diseases such as redwater, corridor disease, gall-sickness and heartwater, so that many animals are infected and fail to survive, especially the young. In antelope such as roan, sable and tsessebe a substantial proportion of calves die every year with symptoms of tick-borne disease.

A test has been carried out in one of our nature reserves where the problem of ticks on eland was severe. Six eland cows were used, divided into two groups of three each. These groups were placed in separate but similar paddocks. One group was treated monthly for six months. Several different lines of approach, involving both oral administration and the injection of an experimental remedy, were used during this first test and the most effective will be determined during projected experiments. The preparation of the various substances used will be described at a later stage, after further experimentation has indicated which of these were most effective.

The object is to induce a gradual decline of ticks in an area rather than to keep animals tick-free. The method may well be a means of restoring an ecological balance in areas where this is now absent due to the continual use of sprays.



Total tick counts on six Eland at Loskop Dam.

Soon after the commencement of this experiment, a striking difference was seen between the treated and untreated animals. It was noted that even the smaller number of ticks on the treated animals were generally less firmly attached as if the animal was found unpalatable, or they had difficulty in embedding themselves.

The accompanying histogram shows the difference between the two groups. This difference in the number of ticks might have been greater, but it was necessary to treat the untreated group periodically with sprays and tick grease in an attempt to prevent abscesses from developing; in fact to keep them alive. In spite of this, all three animals in the experimentally untreated (control) group developed ear abscesses and a bull, also untreated, died of an ear abscess eventually involving the brain membranes.

This experiment is clearly only a first step in finding a suitable way to reduce or control ticks in wildlife sanctuaries. The active ingredients among the series we have used must be individually tested on other species, and there is still much uncertainty as to how the best results may be obtained.

It is now planned to test the different fractions of the mixture on a larger number of captive animals, as well as on free-roaming antelope which are known to be severely tick-infested. Finally it will be established whether this treatment will reduce the calf mortality in roan, sable antelope and tsessebe in our reserves. There is, in fact, some indication to suggest that the treatment given to the full-grown animals does have a positive effect on the progeny. Three calves were born to the six eland cows in our two groups. The one in the control paddock died apparently of heartwater, while the two in the treated paddock are, at the time of writing and the termination of the experiment, alive and well.

Little importance can probably be attached to this preliminary experiment except that the results are clearly definitive. If, however, subsequent experiments are even partially as effective as the one described here, then the method can be considered as having promise for wild animal husbandry wherever animals are kept under less than completely natural conditions.

Rustenburg Nature Reserve a gem of the Magaliesberg

Laurie Oates

One of the Transvaal's most beautiful nature reserves is the Rustenburg Nature Reserve situated in the Magaliesberg Mountains just south-west of the town of Rustenburg.

The farm Rietvallei was originally owned by President Paul Kruger. One of his descendants left it to the Rustenburg Town Council and the latter in turn generously presented it, together with adjacent portions of the town lands, to the Provincial Administration of the Transvaal. The area of 2898 ha was proclaimed a nature reserve in 1967.

This reserve, like so much of the Magaliesberg, is an ideal natural haven, not only for mankind, but also for its animals and plants; it lies on the summit and northern slopes of the Magaliesberg. The mountain rises 400 metres above the surrounding plains, giving a bird's eye view of the town and further north also of the Pilansberg and Waterberg Mountains, the Magaliesberg Range curving away eastwards to Hartbeestpoort Dam and the bushveld plains stretching southwards and westwards to the horizon.

Unique to this reserve is the large valley basin nestling between two rims of the mountain, to the west of which is a fairly extensive plateau. This mountain top forms a valuable catchment area, of which the main watercourse flows through a large reed-swamp (vlei) in the bottom of the valley basin. The water is crystal clear and the flow strong and perennial. The stream flows eastwards as the Waterkloof River emptying into the Hex River.

The mountain ridges are characterized by giant quartzite boulders weathered to grotesque shapes and sizes. The rock slopes drain into valleys, most of which have running water for a least part of the year.

The vegetation of the reserve is broadly classified by botanists as Sour Bushveld. Nevertheless the reserve comprises a variety of habitats, such as grassland, brushwood and bushveld. The largest part of the wooded area lies at the foothills and along the northern slopes of the mountain and is dominated by *Acacia* and *Combretum* species of trees. Similar wooded areas also occur in valleys higher up the mountain. Evergreen *Protea* veld is found on the middle slopes and in restricted areas of the valley basin and plateau. The *Acacia* veld of this valley basin in the Magaliesberg is

Giant quartzite boulders weathered to grotesque shapes and sizes.

unique because of the interesting association and large variety of plant species that occur together.

Rare and protected plants growing in the reserve include *Aloe peglerae,* endemic to the western Magaliesberg, *Kniphofia,* the Red-hot Poker along the vlei, *Cyathea dregei,* the Tree-fern in the kloofs and the succulent *Frithia pulchra* growing on shallow stony ground.

The only game animals that had survived in this area were the klipspringer, mountain reedbuck and grey duiker. However, most of the game that was originally found here has been brought back, namely sable antelope, waterbuck, zebra, kudu, red hartebeest and impala. More recently reedbuck and oribi have been introduced and appear to be settling down well. About 450 head of game are now in the reserve.

It is interesting to note that the first sable antelope ever recorded by a white man was shot in this vicinity by Captain Sir William Cornwallis-Harris in December 1836; he refers to the mountains as the Cashan Mountains. He was greatly excited when he sighted a herd of eleven sable and after following this herd for three days on horseback and foot he finally shot a magnificent bull that was sent to the British Museum.

Also seen from time to time in the reserve, especially at night, are the leopard, the rare brown hyaena (listed internationally as an endangered species), the lynx or caracal, the black-backed jackal and the aardwolf. Troops of baboons bark defiantly at human intruders and occasionally vervet monkeys can be seen in the tree tops along the foothills.

Of the bird-life some 140 species have already been recorded. It is pleasing to see the Black Eagle swooping along the high mountain ridges. A pair of Martial Eagles regularly nests in a Boekenhout Tree and they have been seen to prey on a young springbok lamb.

In the small camp at the base of the hill visitors can frequently hear the eerie call of the Scops Owl as it goes about hunting at night-time. The loud call of the Red-chested Cuckoo with its repetitive "piet-my-vrou" can be heard during the early summer through the kloof until late at night.

Although the prime purpose of the nature reserve is to conserve this part of the mountain ecosystem, it also fulfils a valuable outdoor recreational and educational function because of its proximity of less than 100 km to Pretoria and Johannesburg.

The common Protea caffra or Suikerbos.

This natural recreational area will supplement the more modern facilities that already exist in the surrounding area, especially those to the east and south-east of Rustenburg.

At present the reserve is only open to organized groups of visitors. This is because facilities are limited; a suitable access road is still under construction and picnic and camping sites with the necessary ablution amenities are still in the planning stage.

The small rustic camp at the base of the hill is available to organized groups of not more than 50 persons; youth groups are given preference. Plans are being made to improve the cooking and ablution facilities. Visitors must bring their own camp equipment and tents for sleeping.

At the top of the mountain in the *Acacia* bushveld a small picnic and camping area is at present being planned for a strictly controlled number of visitors. They will be able to drive some 3 km from the entrance gate to this area, where a small office and information centre are being planned.

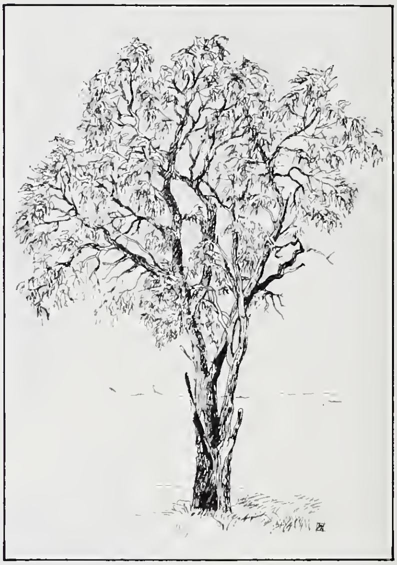
Patches of wild Syringa Trees are found in the valley.

Visitors wishing to do sightseeing and game viewing will in due course be able to book a seat on a tourist bus that will take them on a tour of the reserve; the reason for this is that the reserve is too small and the roads not suitable for a large number of cars.

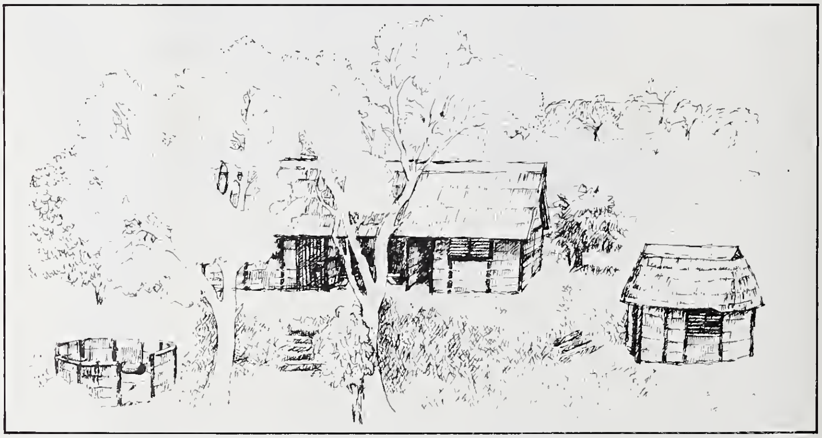
A great attraction to those visitors who wish to come into closer contact with nature and are prepared to carry a rucksack and hike through the reserve is the mountain hiking trail. This is a two day trail with an overnight stop at a mountain hut with a thatched roof and reed walls alongside a small stream. Only the bare essentials are provided such as beds, hurricane-lamps, three-legged cooking pots, water and firewood for an open fire. Again preference is given to organized youth groups to use this trail and a party may not exceed ten persons.

Much publicity and attention is being given to conserving most of the Magaliesberg Range as a natural area, so that its scenic beauty and wildlife can be protected for posterity. It is hoped that such a reserve will eventually stretch from the Wonderboom Nature Reserve in Pretoria to just west of the Rustenburg Nature Reserve. If this hope is one day realized, a great step forward will have been taken for mankind, especially for the city dwellers of the Witwatersrand-Pretoria complex, and future generations will pay tribute to those who are now concerned with this ideal.

Tritonia nelsonii occurs on the fringes of the vlei.



The Boekenhout Tree is a member of the Protea family.



The overnight stop along the nature trail on the mountain.

Science and nature conservation in the Transvaal:

a short historical account

R. Bigalke

Dr. R. Bigalke.

At the present time nature conservation is practised on a scientific basis in the Transvaal both by the National Parks Board of Trustees and the Nature Conservation Division of the Province. But this has not always been the case. Prior to 1947 not a single biologist was employed by either of these bodies.

To this unsatisfactory state of affairs I first drew attention as far back as 1933. Subsequently it was stressed in contributions to scientific journals, articles in magazines and newspapers and also in a few public lectures, that nature conservation could not be carried out successfully unless qualified biologists were employed to study the problems arising in conserving the fauna and flora. Some of these are taxonomic surveys of the many kinds of plants and animals, the interrelations between carnivorous and herbivorous species of animals and between the fauna and flora, the diseases and epizoötics to which wild animals are subject, the relationship of food and water supplies to the animal populations and methods of improving the supplies when necessary, the effects of veld burning and other factors on the seasonal movements of ungulates, the carrying capacity of the areas concerned, the study of animal populations and their fluctuations, the conflict arising from the simultaneous occupation of national parks and reserves by man and wildlife, and others.

Taxonomic surveys of the animals and plants are an essential beginning, since it is necessary for the scientific workers to know what species are present in the different areas. These surveys are, in fact, a kind of scientific stock-taking.

Early association with nature conservation in the Transvaal showed that the scientist's point of view was by no means taken for granted. In fact during the 1930's there was opposition or difference among those entrusted with conservation areas to the important part that biological science could, and indeed must, play in the conservation of the country's fauna and flora.

Success was first achieved in the Transvaal in 1945, when the Executive Committee appointed a commission under the chairmanship of the late Mr. S.A. Lombard to enquire into and report on the problem of game protection in the Province. A few scientists who submitted evidence emphasized the necessity of placing game preservation on a scientific basis. The report that appeared early in 1946 was described by me at that time as the *magna carta* of game protection in the Transvaal.

The most important recommendation undoubtedly was the one recommending the establishment of a game department with two professional officers. This became operative in 1947, when a Conservator of Fauna and Flora, Dr T.G. Nel, was appointed and also a Director of Fisheries, Mr S.S. du Plessis, now Dr du Plessis, the present Director of Nature Conservation in the Transvaal. This was the first time in the history of the Province that the welfare of its wildlife was entrusted to biologists.

Following this initial success was the establishment of the Scientific Advisory Council for National Parks and Nature Reserves in Janury 1949 by the Minister of Lands, the late Mr J.G. Strydom. Its functions were to advise the Government, Provincial Councils or any public body on the preservation of fauna and flora in existing national parks or nature reserves and on the establishment of new ones. It was also authorized to advise these bodies on scientific wildlife problems and educational matters and any other matters connected with nature conservation in national parks and nature reserves.

Owing to the critical position of the Cape Mountain Zebra at that time, the Minister almost immediately asked the Council to investigate this problem and submit proposals. In its report the Council recommended that a herd of 21 Cape Mountain Zebras, owned by Mr N.D.C. Michau on a farm adjoining the Mountain Zebra National Park near Cradock, should be bought by the State and incorporated in the Park. It was not until 1964, however, that this herd, then numbering 30, was acquired together with additional land. Since that year this zebra's status has improved considerably.

Soon after my appointment to the National Parks Board in September 1949, I proposed that the Board should appoint a biologist to its staff, but this was not agreed to. In April 1950 a memorandum was submitted to the Board dealing with the scientific administration of the Kruger Park in which, inter alia, the original proposal was repeated. This was successful and resulted in the appointment of Dr T.G. Nel on 1 October 1950. About seven months later H.P. van der Schijff, now Dr. van der Schijff, full-time Dean of the Faculty of Science and formerly Professor of Botany at the University of Pretoria, was appointed plant ecologist in the Park. After a few years he produced the first detailed scientific

National Parks Board

The Stevenson-Hamilton Library at Skukuza.

treatise on its plant ecology.

Thus nearly a quarter of a century elapsed after the establishment of the Kruger Park before scientists were appointed to start work on the many problems that required investigation. In view of the former opposition and indifference to research in national parks, it was gratifying to read a recent statement by the Chief Director of National Parks in the official journal, *Custos*, that "the first principle in the utilization of nature areas is scientific research".

During the years 1933 to 1939 various suggestions were made by me in magazine and newspaper articles to stimulate the interest of people who visit the Kruger Park, thereby enhancing its value. Among these were suitable literature on the fauna, flora and other features. Now the Board not only has its journal, *Koedoe*, in which the results of research work in the various national parks are published, but guide-books as well as more comprehensive works such as those dealing with the trees and birds are available. There is also the popular magazine, *Custos*, appearing monthly.

Another suggestion was that a museum should be built at Skukuza. As the Park itself is a gigantic museum of live animals and living plants, it was not intended that such a museum should be a natural history museum in the usual sense. It would chiefly be an aid to help visitors to understand what they see, and hence the exhibits would consist mainly of diagrams, photographs, models, maps, explanatory labels for suitable objects and other visual aids. Now there is a museum close to the library in Skukuza.

The importance of an educational service in the Park was emphasized, and this was inaugurated by me at Skukuza on 3 July 1952 with the first talk.

In 1938 I suggested that there should be a public reading-room at Skukuza witn books on the fauna and flora, geology and other features of the Park. But it was not until 14 October 1961 that the Stevenson-Hamilton Memorial Library could be opened at Skukuza by the President of the Wildlife Protection and Conservation Society, Mr N. Gilfillan. The building is a joint gift from that Society and the Coco-Cola Company of Johannesburg. It is proving to be a great boon, not only to visitors but also to the Park's scientific and other staff.

B.L. Penzhorn

A Cape Mountain Zebra.

In 1950 the Fauna and Flora Branch of the Transvaal Provincial Administration, now the Transvaal Nature Conservation Division, started the publication of its journal *Fauna and Flora* that has appeared fairly regularly ever since.

As the Transvaal's Nature Conservation Division is responsible for conserving the fauna and flora of about thirteen-fourteenths of the Province's area, a large scientific staff is concerned with research work on its many species of game animals, some of which do not occur in the Kruger Park. This staff also includes scientists who study the smaller species of mammals, the avifauna, the fish fauna and the flora.

At a station in the S.A. Lombard Nature Reserve near Bloemhof research is carried out on game animals, especially the High-veld species, and on the control of problem animals, of which the Black-backed Jackal is the most important.

Fisheries research is conducted at the Provincial Fisheries Institute, Lydenburg, with its freshwater aquarium and the Low-veld Fisheries Research Station, Marble Hall.

The importance of angling in the Transvaal is shown by the fact that in 1973-74 no fewer than 139 194 licences were issued to anglers. In addition there were thousands of anglers under sixteen years of age who could fish without licences and many farmers who could also do this in their farm dams.

Among its biologists the Nature Conservation Division has four ornithologists who are mainly concerned with research on terrestrial and aquatic game-birds. For this work, and also for migration studies of Transvaal birds, there is an Ornithological Research Station in the Barberspan Nature Reserve in the western Transvaal.

Research on the Province's flora is carried out by its botanists and ecologists not only in the special flora reserves, but also in some of the larger reserves.

Many publications on the results obtained by the research workers of the Nature Conservation Division appear from time to time in various scientific journals.

A few universities also play an important part in the Division's research programmes. For this purpose the Provincial Council makes a grant of R9 000 per year to the Mammal Research Institute of the University of Pretoria.

know your ordinance

In the previous edition of "Fauna and Flora" we discussed specially protected and protected plants. In this issue we shall briefly discuss wild animals and especially the hunting of these animals.

In accordance with the provisions of the Nature Conservation Ordinance 1967, wild animals are classified mainly in three categories; protected game, ordinary game and those animals that are not grouped under the first two categories.

PROTECTED GAME

These wild animals listed in Schedule 1 of the Ordinance may not be hunted unless the person is in possession of a permit issued by the Administrator.

(*a*) Such a permit is issued free of charge to an owner of land if the Administrator is of opinion that it is expedient, or in the interests of nature conservation, that such game should be hunted. Each application is judged on merit.

(b) Non-owners of land can also be granted the opportunity of hunting protected game, but in their case the prescribed permit fees must be paid.

The hunting of protected game is *not* subject to hunting seasons and Receivers of Revenue issue permits for hunting such game only if non-owners have previously obtained written authorization from the Administrator. Written authorization is granted only if the owner of the farm, where the game occurs, permits non-owners to hunt the game on the farm.

The list of PROTECTED GAME is as follows:

Common Name	Scientific Name
Giant Girdled Lizard	*Cordylus giganteus*
Giant Rock Lizard	*Gerrhosaurus validus*
Giant Rock Lizard	*Gerrhosaurus major grandis*
Dwarf or Bearded Chameleon	*Microsaura ventralis*
All species of *land* tortoises	*Family Testudinidae*
Hedgehog	*Erinaceus frontalis*
Bush-baby	*Galago crassicaudatus*
Night-ape	*Galago senegalensis*
Samango monkey	*Cercopithecus mitis*
Pangolin	*Manis temmincki*
Aardwolf	*Proteles cristatus*
Aardvark	*Orycteropus afer*
Elephant	*Loxodonta africana*
Black Rhinoceros	*Diceros bicornis*
Square-lipped Rhinoceros	*Ceratotherium simum*
Hippopotamus	*Hippopotamus amphibius*
Giraffe	*Giraffa camelopardalis*
Red Duiker	*Cephalophus natalensis*
Blue Duiker	*Cephalophus monticola*
Sharpe's Grysbok	*Raphicerus sharpei*
Steenbok	*Raphicerus campestris*
Oribi	*Ourebia ourebi*
Suni	*Nesotragus moschatus*
Klipspringer	*Oreotragus oreotragus*
Grey Rhebuck	*Pelea copreolus*
Mountain Reedbuck	*Redunca fulvorufola*
Reedbuck	*Redunca arundinum*
Waterbuck	*Kobus ellipsiprymnus*
Gemsbok	*Oryx gazella*
Roan Antelope	*Hippotragus equinus*
Sable Antelope	*Hippotragus niger*
Sassaby	*Damaliscus lunatus*
Red Hartebeest	*Alcelaphus buselaphus*
Black Wildebeest	*Connochaetes gnou*
Nyala	*Tragelaphus angasi*
Eland	*Taurotragus oryx*
Buffalo	*Syncerus caffer*

All species of birds are also PROTECTED GAME except the species listed below and also those species that are classified as ordinary game.

Common Name	Scientific Name
Rock Pigeon	*Columba guinea*
Turtle Dove	*Streptopelia capicola*
Laughing Dove	*Streptopelia senegalensis*
Red-eyed Bulbul	*Pycnonotus nigricans*
Black-eyed Bulbul	*Pycnonotus barbatus*
All kinds of Mousebirds	Family Coliidae
Pied Crow	*Corvus albus*
Black Crow	*Corvus capensis*
Red-winged Starling	*Onychognathus morio*
Cape Sparrow	*Passer melanurus*
Spotted-backed Weaver	*Ploceus cucullatus*
Cape Weaver	*Ploceus capensis*
Masked Weaver	*Ploceus velatus*
Red-billed Quelea	*Quelea quelea*
Red Bishop Bird	*Euplectes orix*
White-breasted Cormorant	*Phalacrocorax lucidus*
Reed Cormorant	*Phalacrocorax africanus*

ORDINARY GAME

These species of wild animals are listed in Schedule 2 of the Ordinance. Owners of land may hunt ordinary game without a permit during a period which is not a close season. The owner's parent, spouse, child, grandchild and son-in-law may also hunt ordinary game without a permit, but must have the written permission of the owner in his possession while hunting.

A non-owner of land may hunt ordinary game during a period that is not a close season, if —

(a) he is in possession of a valid licence; and

(b) he has obtained the prior written permission of the owner of the land on which he is hunting and he carries this, together with a licence, with him while hunting.

The hunting season is announced annually and the game species that may be hunted and periods wherein they may be hunted differ from district to district. It is, therefore, extremely important that a prospective hunter makes sure every year, before making hunting arrangements, that the species of game he intends hunting are actually "open" in the district concerned.

Here follows a brief explanation of how the hunting rules are determined annually.

In most magisterial districts of the Transvaal there are Nature Conservation Advisory Committees appointed by the Administrator, with the local magistrate as chairman. These Committees meet annually and submit recommendations for the following year on game that may be hunted in the various districts, or parts thereof, and during which periods. As a rule the hunting season extends from 1 May to 30 April for landowners and for non-owners from 1 May to 31 July in the case of buck (antelope) and from 1 June to 31 August for birds.

As from 1 May 1975 the licence system with regard to the hunting of ordinary game has changed radically. At present there are two kinds of licences, one for buck and hare and one for birds. The licence with regard to buck is still issued at the usual tariffs per head. A bird licence now costs R5 and authorizes the hunting of all species of ordinary game-birds with a bag limit of 20 birds per day.

It is essential that the return sheet attached to the bird licence should be accurately filled in and returned to the Director of Nature Conservation, Private Bag X209, Pretoria. Without this information no sound bird management is possible.

The list of ORDINARY GAME is as follows:

Common Name	**Scientific Name**
Spurwing Goose	*Plectropterus gambensis*
Egyptian Goose	*Alopochen aeguptiacus*
Red-bill Teal	*Anas erythrorhyncha*
Yellowbill Duck	*Anas undulata*
Coqui Francolin	*Francolinus coqui*
Crested Francolin	*Francolinus sephaena*
Grey-wing Francolin	*Francolinus africanus*
Shelley's Francolin	*Francolinus shelleyi*
Redwing Francolin	*Francolinus levaillantii*
Orange River Francolin	*Francolinus levaillantoides*
Red-billed Francolin	*Francolinus adspersus*
Natal Francolin	*Francolinus natalensis*
Swainson's Francolin	*Pternistis swainsoni*
Red-necked Francolin	*Pternistis afer*
Crowned Guinea-fowl	*Numida meleagris*
Red-knobbed Coot	*Fulica cristata*
All species of sand-grouse	Family Pteroclidae
Rock Pigeon	*Columba guinea*
Burchell's Zebra	*Equus burchelli*
Grey Duiker	*Sylvicapra grimmia*
Impala	*Aepyceros melampus*
Springbok	*Antidorcas marsupialis*
Blesbok	*Damaliscus dorcas phillipsi*
Blue Wildebeest	*Connochaetes taurinus*
Bushbuck	*Tragelaphus scriptus*
Kudu	*Tragelaphus strepsiceros*
All species of hares	Family Leporidae

WILD ANIMALS

These are the species of indigenous wild animals that are not classified as either protected or ordinary game.

Landowners may hunt wild animals without a permit. Non-owners may also hunt wild animals but with the prior written permission of the landowner.

No restrictions are placed on the type of fire-arm that may be used by an owner of land to hunt game or wild animals on his land.

A non-owner of land may not hunt game with —

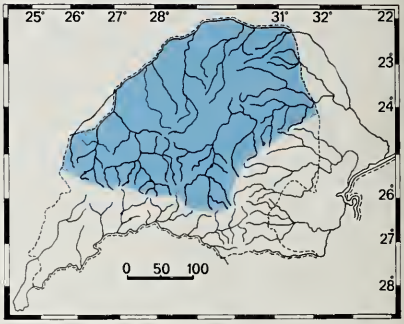
(a) A weapon which automatically reloads after discharging and discharges merely by pulling the trigger or holding it in the discharge position; in other words an automatic weapon;

(b) a weapon discharging a .22 inch or smaller calibre rimfire cartridge;

(c) a shotgun.

A non-owner of land may, however, hunt birds and hares with a shotgun.

There are no restrictions on the type of fire-arm used by a non-owner to hunt wild animals that are not classified as game.



the silver–fish

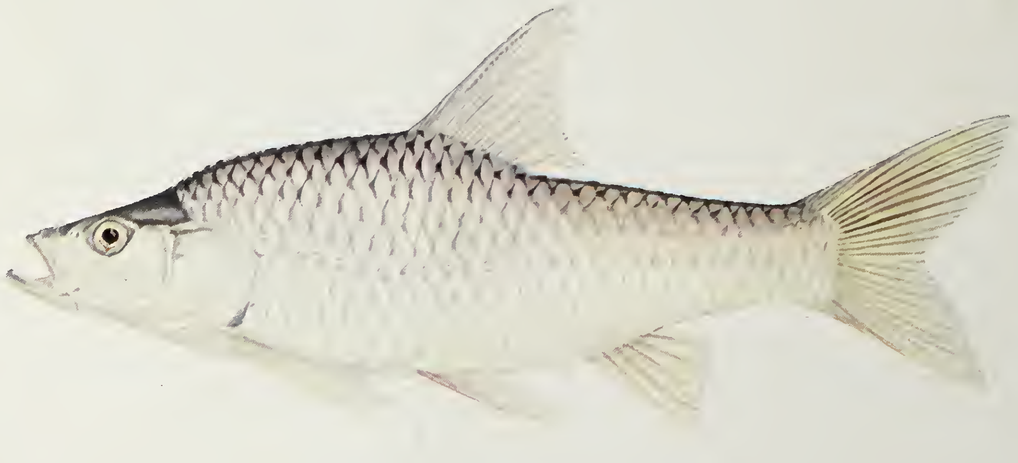
The silver-fish is one of our smaller yellow angling fishes that may attain a mass of 1 kg in exceptional cases. Its paper thin protractile mouth serves as a handy distinctive characteristic. Anglers frequently find that their hooks tear out from the mouth of a silver-fish if it is not carefully reeled in.

In the Transvaal the silver-fish is restricted to the eastward flowing Limpopo River system. It is not found in large numbers in the rapids, but prefers deeper pools. Moderate numbers also occur in irrigation dams such as the Loskop Dam and Maricopoort Dam. It is suspected that the silver-fish is not dependent on rapids for spawning purposes, as opposed to other angling yellowfish such as the largemouth and the smallmouth yellowfish.

It is often accepted that the silver-fish is a hunter that feeds actively on other small fish, but a recent study on feeding habits in the Loskop Dam showed it to be a carnivore, devouring a large range of organisms of animal origin. The gut length equals the total length of the fish, which is a sure indication of a carnivorous fish.

Anglers, who are always on the look-out for more and better angling fish, are at present very interested in improving certain characteristics of the silver-fish, such as the rate of growth and maximum size, but this is a long-term project.

Those anglers who use aritificial baits achieve splendid results by using small-sized spinners. The fish may also be readily caught with earthworms and grasshoppers as bait.



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Transvaalse Afdeling Natuurbewaring

TRANSVAALSE AFDELING NATUURBEWARING
NOMMER 28
JANUARIE 1977

INHOUD:

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VOORBLADFOTO:
Protea gaguedi, 'n tipiese voorbeeld van Cythna Letty se briljante kunswerk. Hierdie en ander afbeeldings van haar werk is vriendelik deur die Botaniese Navorsingsinstituut voorsien.

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Uitleg en tipografie:
Alette Lambrechts

Fauna & Flora is 'n publikasie van die Transvaalse Afdeling Natuurbewaring en word van tyd tot tyd in Afrikaans en Engels gepubliseer.

Intekening is gratis. Skriftelike aansoeke moet gerig word aan: Die Direkteur, Transvaalse Afdeling Natuurbewaring, Privaatsak X209, Pretoria, Transvaal, Republiek van Suid-Afrika, 0001.

ISBN 0 7991 0161 3

ERRATA:
By *Fauna & Flora* No. 27 is die publikasie datum van Oktober 1976 en ISBN No. 0 7991 0166 4 onopsetlik uitgelaat.

Gedruk in die Republiek van Suid-Afrika deur Everton Offset (Edms) Bpk.

Cythna Letty.

Juffrou C.C.G. van der Walt
Transvaalse Afdeling Natuurbewaring

Cythna Letty, Suid-Afrika se bekendste botaniese kunstenaresse, het op 1 Januarie 1975 haar tagtigste verjaarsdag gevier. Die Universiteit van die Witwatersrand het die geleentheid te baat geneem om haar te huldig met die toekenning van 'n ere-doktorsgraad. Niemand was meer verbaas as sy oor die eer wat haar te beurt geval het nie. Sy het jare lank in 'n klein hoekie in die ou Nasionale Herbarium gewerk, en op haar kenmerkende humoristiese manier van haarself as die „backroom boy" gepraat, egter sonder 'n tikkie verwyt. Sy was trouens tevrede om net dit te wees solank sy maar besig kon wees met wat haar vreugde was: die teken van blomme en plante. Dit het nooit by haar opgekom dat sy besig was met 'n onskatbare nalatenskap aan die volk nie; 'n nalatenskap wat vandag op minstens R100 000 geskat word. Die vreugde wat haar werk vir haar gebied het, het sy self pragtig in een van haar gediggies uitgedruk: „I hitched my wagon to a daisy . . . could any star have guided me more exactly to where I most loved to be."

Sy is in Standerton gebore. Haar vader, Walter Letty, was 'n Engelsman werksaam as ingenieur in Johannesburg toe die Jameson-inval aan die broei was, en het sy vrou toe om veiligheidsredes na Standerton gestuur. Cythna se moeder was 'n nooi Lindenberg van Worcester en by haar huwelik met mnr Letty was sy 'n weduwee Leibbrandt met ses kinders. Uit die tweede huwelik is vyf kinders gebore. Die kinders uit die eerste huwelik het hoofsaaklik by peetouers gebly en net af en toe by die Letty-gesin aangesluit. Cythna se moeder was 'n fyn kultuurmens wat baie gelees het, selfs so dat ene Louis Bichard sy biblioteek aan haar bemaak het. Sy het dus op die mees afgeleë plekke 'n voorraad boeke tot haar beskikking gehad: romans, geskiedenis, filosofie, gedigte, ens. Die naam van die dogter, Cythna, is juis aan 'n heldin uit die werk van Shelly ontleen. Die vader was blykbaar 'n rustelose persoon wat gou sy werk as ingenieur laat vaar het, en sy gesin in sy omswerwinge saamgeneem het. Hul huisvesting was dikwels uiters primitief, en armoede het al meer deel van hul bestaan geword. Die moeder het egter gesorg dat haar kinders geleerd kom.

Cythna het die leeslus en leergierigheid van haar moeder geërf en aangekweek, maar dit was veral háár liefde vir blomme en plante wat sy aangeleer het wat haar lewenstaak sou word. Orals waar hulle vertoef het, het die moeder haar kleinspan veld toe geneem om blomme te soek. 'n Weldoener het papier, verf en kwassies aan haar besorg om alles wat in die veld gevind is te teken terwyl die kinders toekyk. Spoedig het dit 'n bron van inkomste geword. Die moeder het versierde geslagregisters en ook geïllustreerde „Ter Gedachtenis Aan" vir die boere gemaak.

Bequartiodendron magalismontanum

Hiermee het sy dan soms 'n slagskaap of selfs 'n jong vers, as die kunswerk groot en ruim geïllustreer was, losgeslaan.

Cythna Letty se vroegste herinneringe is van die vreugde wat sy uit die blommeprag in die veld geput het. Sy kon skaars drie jaar oud gewees het toe sy op 'n sleerit probeer het om die blomme langs die pad te pluk. Haar moeder het geskrik en het haar dieper die slee ingetrek. Toe vermaak sy haar om na die gras te kyk en verras haar moeder met: ,,Moeder, kyk die gras hardloop saam; sal dit nie miskien voor ons daar aankom nie?" Die gawe van 'n siening wat meer is as blote waarneming het gaandeweg sterker ontwikkel en sprankelende betekenis aan haar waarnemings gegee. So skryf sy bv. in haar gedig ,,Bushveld Ballet" van aasvoëls: ,,Black ruffled ballerinas from the skies effect a leggy landing one by one." Voëls op elektriese drade sien sy as: ,,golden minims on a tense electric stave". In ,,To My Pencil Sharpener" rig sy die volgende woorde:

,,You stand on heron-leg, demure and firm,
With full instructions on your shining head,
and with your tidy carborundum teeth
Expose the bevelled cedar's heart of lead."

Na haar skoolopleiding het Cythna haar as onderwyseres bekwaam, maar op grond van haar bedrewendheid in die tekenkuns wat sy vroeg saam met haar moeder begin beoefen het, het sy 'n aanstelling by Onderstepoort as tekenares van siekteweefsels gekry. Gelukkig is sy spoedig in 1927 na die Nasionale Herbarium oorgeplaas. Hier het sy 40 jaar lank met die grootste toewyding geteken. In algehele verdieping en afgetrokkenheid het sy dikwels ondervind dat haar gees verhef is tot groot hoogtes, soos sy dit stel:

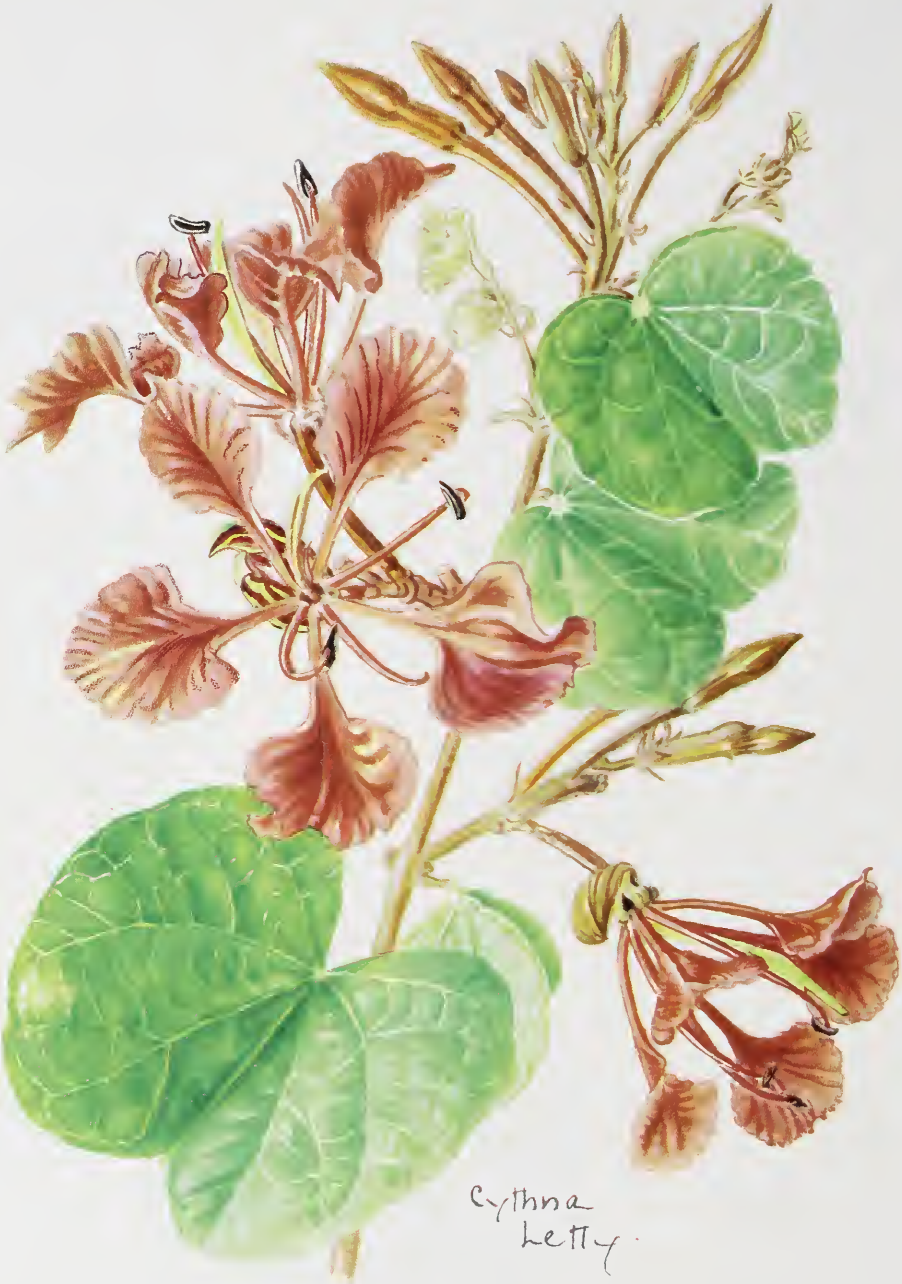
,,While you work the angels near
Lean and watch, but you absorbed
Do not notice that they are here.
When your final touch is given
Warmth of wing upon the air
Proves the hour spent in heaven."

Haar eerste besoek aan die Herbarium was in 1914 gewees toe sy haar moeder vergesel het om haar moeder se tekeninge te laat identifiseer. Dié twee sketsboeke van haar moeder word in die Herbarium bewaar. In 1934 het Cythna bedank om in die huwelik met Alric Forssman te tree, maar in 1940 was sy weer terug in haar hoekie by the Herbarium. Sy het geen formele opleiding in die tekenkuns gehad nie, behalwe wat sy van haar moeder geleer het. Op tagtigjarige leeftyd skort daar nog niks met haar gesig nie. Sy het geleer om noulettend na die fynste besonderhede van 'n blom of plant te kyk en dit foutloos na te teken. Sy is 'n uitstaande illustreerster, maar beslis nie slegs 'n tekenares nie: sy is 'n botaniese kunstenares. Sy betrag wat sy moet teken fyn om die kleurskakeringe en ligeffekte waar te neem wat net 'n kunstenaar kan raaksien. Die ontroering waarmee sy werk, verleen aan die produk daardie ondefinieërbare element wat dit 'n kunswerk maak.

Combretum hereroense

Sy het 750 tekeninge vir die groot reeks: ,,Flowering Plants of South Africa" gemaak. Hierdie tekeninge is besonder waardevol, omdat hulle in kleur gedoen is. Moontlik heg sy die meeste waarde aan haar groot werk: ,,Wild Flowers of the Transvaal" wat ook in Afrikaans: ,,Veldblomme van Transvaal", verskyn het. Hiervoor het sy 400 sketse gemaak. Haar niggie, die bekende mev. Rothman, beter bekend as M.E.R., se dogter Anna het die Afrikaanse manuskrip versorg, en bekende plantkundiges soos drr. Dyer, Codd en Inez Verdoorn het die teks behartig. Sy het ook sommige van die illustrasies vir die oorsig van aronskelke in *Bothalia* gemaak, en tekeninge vir ,,Grasses and Pastures of

Combretum zeyheri



Bauhinia galpinii, *die ,,Trots van De Kaap'', is een van ons pragtigste inheemse plante wat sy naam van Barberton se De Kaapvallei kry. Dit is 'n gunsteling onder tuiniers, en een van die min inheemse struike of bome wat langs ons paaie geplant word.*

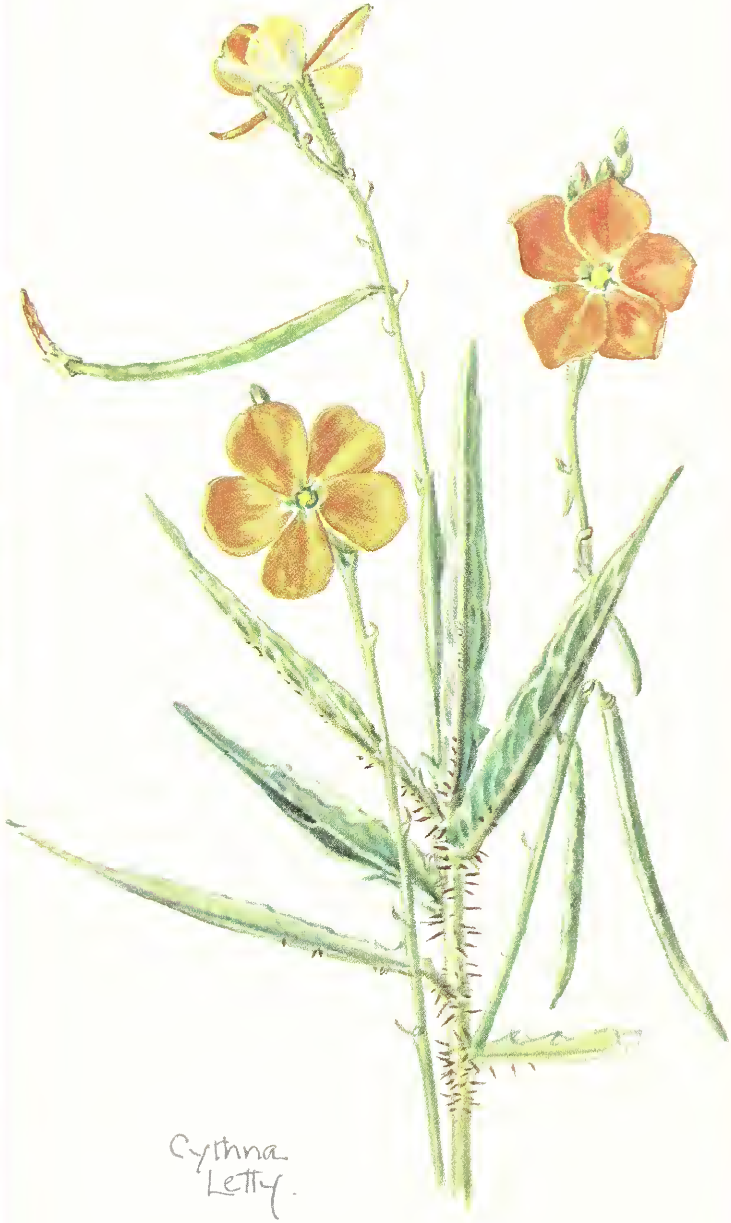
South Africa.'' Sy was aangenaam verras toe sy gevra is om ontwerpe vir die eerste Suid-Afrikaanse desimale muntstukke voor te lê. Dit het nuwe uitdaging vir haar ingehou. Haar protea-, aalwyn- en aronskelkontwerpe is aanvaar. Die kunstenares was teenwoordig toe die muntstukke geslaan is. Van die vyftig-sent-stuk sê sy ,,When it was taken out of the bucket and lay shining and groomed in front of me, I felt all collapsed like a string of macaroni.''

Sy het lank beskeie en onopmerk in haar hoekie gewerk; eindelik het die erkenning gekom. Cythna is genooi om sketse vir die Hunt Botaniese Biblioteek, wat by die Carnegie-Melloninstituut ingelyf is, te maak, en vir uitstallings wat in Seattle en Los Angeles gereël is. In Engeland het sy aan die uitstallings van die Koninklike Kew Botaniese Tuine en die Koninklike Tuinboukundige Vereniging deelgeneem. Vir die sketse by laasgenoemde uitgestal, het sy 'n medalje verower. In 1971 het sy 'n een-persoonuitstalling in the Pieter Wenning-gallery gehou, en in 1972 was sy die hoofkunstenares by die Botaniese Navorsingsinstituut se uitstalling in die Pretoriase Kunsgalery. Tydens die ,Groen Erfenis' jaar was sy ook die hoofkunstenares van die uitstalling wat deur die Pretoriase Kunsvereniging gereël is. Sy Edele Minister S.P. Botha het by dié geleentheid 'n huldigingsrede aan haar gelewer. Haar naam sal in botaniese name soos *Crassula lettyae* en *Aloe lettyae*, asook in die Cythna Letty-natuurreservaat naby Barberton voortlewe.

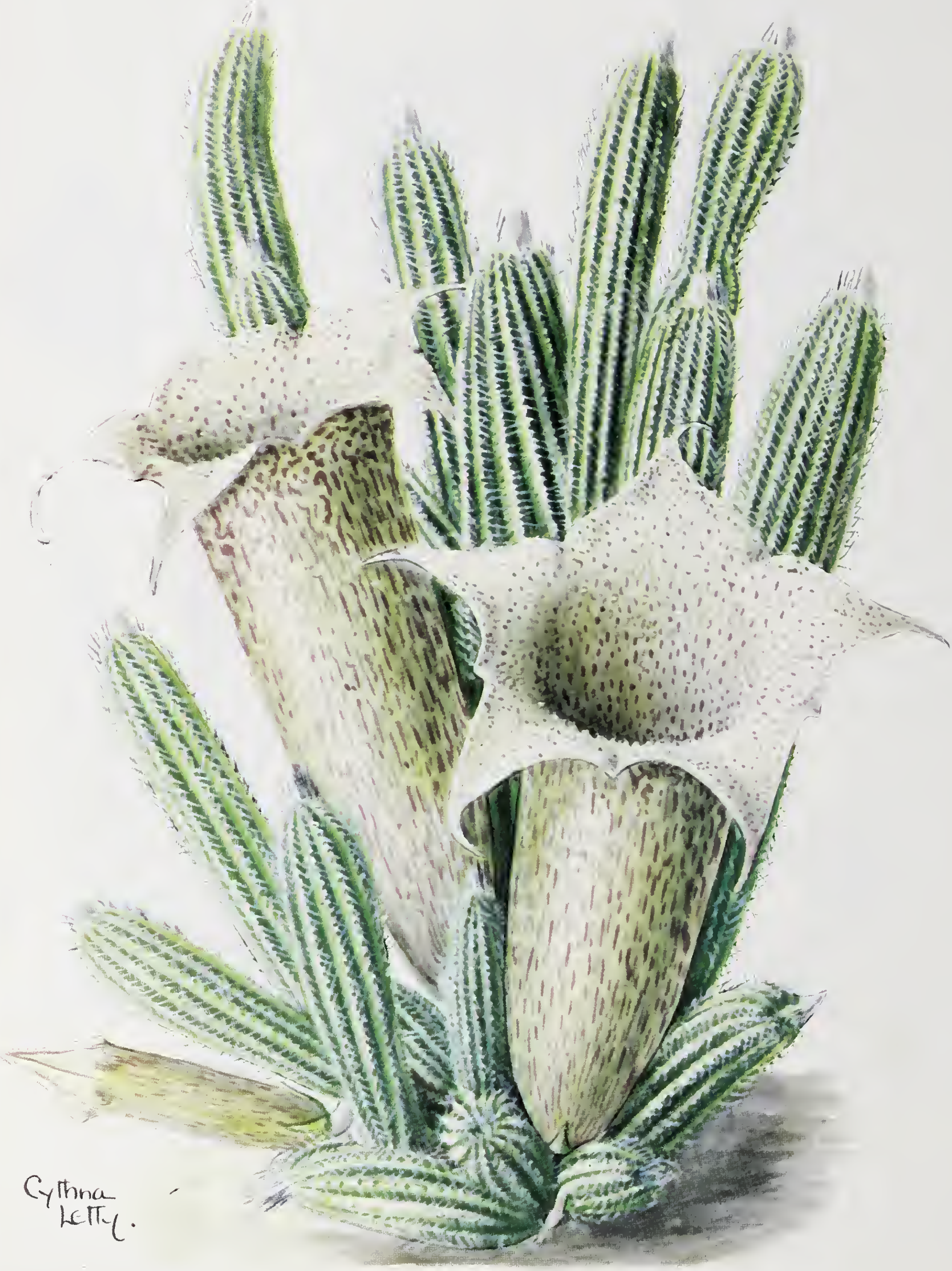
Haar woonstel verraai die teenwoordigheid van 'n fyn kultuurmens. Daar is skilderye van groot kunsskilders, tekeninge van botaniese medekunstenaars, pragtige houtsneewerk, 'n groot versameling porselein, kantwerk, voorbeelde van die wêreld se beste borduurwerk en, les bes, boeke oor 'n wye reeks onderwerpe. Haar familie praat skertsend van haar woonstel as ,,die Hamerkopnes''.

Alhoewel 82 jaar oud, is Cythna Letty nog fiks en fluks. Sy het pas van 'n uitgebreide reis in die V.S.A. teruggekeer en ook nóg 'n skitterende boekie, ,,Die bome van ons land'', in beide tale die lig laat sien. Dit lyk of haar gebed verhoor gaan word:

,,God grant me many years
That I may roam
Unhindered in the Great Karoo and know
Each plant in flower
Each bush in bloom.''


Cythna Letty.

Wormskioldia longependunculata *heet die pragtige naam ,,Leeu-oog'', van 'n gepaste bantoenaam ontleen. Dit word van die noordelike en oostelike Transvaal tot in Oos-Afrika aangetref, en is die algêmeenste en mees wydverspreide van hierdie aantreklike genus.*


Cythna Letty.

Decabelone barklyi *kan met 'n kaktusplant verwar word, maar is 'n aantreklike en ongewone lid van die stapelia-familie. Dit kom vanaf Suidwes-Afrika tot in die Transvaal en Rhodesië voor. Die blomme ruik na aas, en word deur vlieë en brommers bevrug.*

Die hervestiging van kameelperde in Transvaal

S.M. Zaayman
Transvaal Nature Conservation Division

P. Barichievy.

Die kameelperd is ongetwyfeld een van die mees aantreklike en grasieuse diere op die sub-kontinent. Dit was egter die mens, die onbetwiste heerser van natuurlike hulpbronne, wat daarvoor verantwoordelik was dat groot troppe van die manjefieke diere vernietig is. In groot gebiede van die Transvaal waar hulle eens vrylik voorgekom het, is hulle feitlik uitgesterf, behalwe in die suid-oostelike Laeveld en Nasionale Krugerwildtuin waar hulle nog volop voorkom. Weens die uiters streng veartsenyregulasies vir die beheer van bek-en-klouseer siekte, mag geen dier met gesplete hoef uit hierdie gebied met sy getalryke kameelperde oorgeplaas word tensy streng kwarantynmaatreëls nagekom word nie.

In 1952 het die Transvaalse Afdeling Natuurbewaring 'n projek geloods om kameelperde in hulle natuurlike habitatte in die provinsie terug te plaas. 'n Teelkudde en kwarantynsentrum is op die Hans Merensky-natuurreservaat in die Letaba distrik daargestel wat buite die beheerde bek-en-klou gebied lê. Die kudde tel tans meer as 90 diere. In 1962 is kameelperde vir die eerste keer op privaatnatuurreservate en plase hervestig, en ook na twee provinsiale reservate, te wete Loskopdam en Langjan. Meer as 150 kameelperde is sedertdien op 32 plase en privaatnatuurreservate hervestig. Meer as die helfte hiervan het gedurende die afgelope vyf jaar plaasgevind.

Gedurende 1974 en 1975 is 'n opname onderneem om te bepaal tot watter mate die hervestigde kameelperde daarin geslaag het om lewensvatbare kuddes te

londmak en doodgelukkig in die kwarantynhokke op die Hans Merensky-natuurreservaat.

W. Massyn

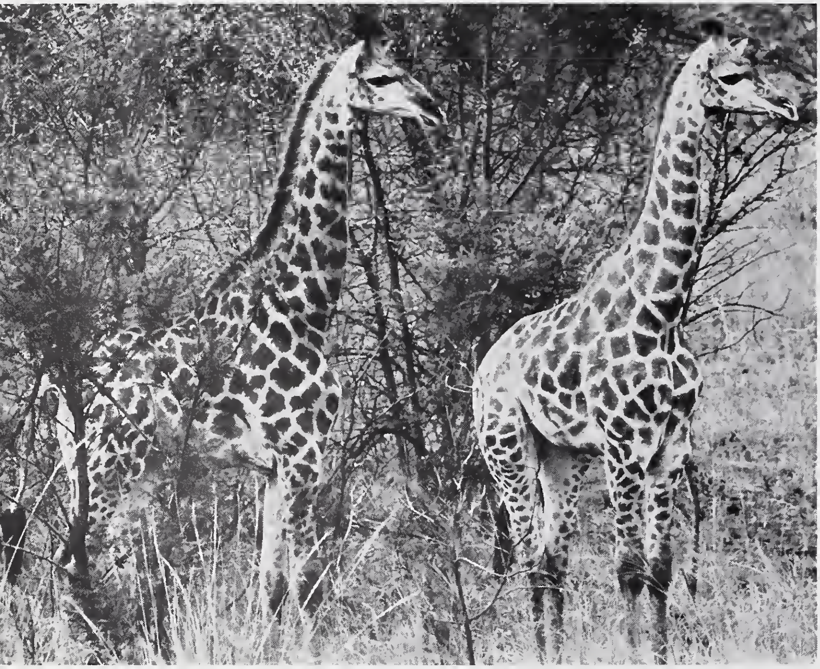
vorm. Hoewel dit bevind is dat die meeste hervestigings suksesvol was in die opsig, en meer as 50 kalwers uit die onderskeie kuddes gebore is, is daar tog 'n aantal probleme ondervind. Weens die hoogte en massa van volwasse diere, kon slegs jonger kameelperde vervoer word. Dit het beteken dat die diere vir 'n aantal jare aan die stremming van 'n nuwe omgewing blootgestel is voordat hulle geslagsryp geword het. Mortaliteitsfaktore het die volgende ingesluit: slangbyt, weerlig, wisselvalligheid van klimaatstoestande, die ongeskiktheid van die habitat as gevolg van landboukundige ontwikkeling, en ook die onervarenheid van sommige eienaars wat van die diere probeer hans grootmaak het.

Om hierdie rede is daar vroeg deur die Afdeling besluit om 'n minimum getal van drie jong bulle en vyf verse te hervestig op individuele reservate en plase, 'n stap in teenstelling met die vroeëre verspreiding van kleiner groepies, wat uiters suksesvol die afgelope aantal jare verloop.

Intensiewe inspeksies word vooraf uitgevoer op alle plase, asook kwarantynfasiliteite waar die kameelperde losgelaat gaan word. Die vervoer van kameelperde word uitsluitlik deur die Afdeling Natuurbewaring behartig in spesiale kratte wat vir die doel ontwerp en vervaardig word. Kenners uit die geledere van die Afdeling verskaf leiding en voorligting aan voornemende kopers, en behou ook kontak met hulle nadat die diere afgelewer is.

Die hervestiging van kameelperde is 'n skouspelagtige aspek van die Afdeling Natuurbewaring se program om inheemse soorte wild na hulle natuurlike habitatte terug te bring.

uksesvol oorgeplaas, sal hierdie tweetjies sorg dat hul soort plaaslik hervestig word.



W. Massyn

DIE ONTDEKKING VAN DIE WOLKBERGGROT

P. le S. Milstein en P.W.J. Adendorff

Transvaalse Afdeling Natuurbewaring

Die Wolkberggrot, geleë in die onherbergsame, bergagtige gebied suid van Haenertsburg en Magoebaskloof is een van die natuurwonders van die Transvaal. Hoewel tans relatief onbekend, word dit reeds deur kenners gunstig vergelyk met die wêreldbekende Kangogrot naby Oudtshoorn. Na 'n ondersoek van die grot deur die Suid-Afrikaanse Speleologiese Vereniging (SASV) gedurende Desember 1968 en Januarie 1969, is die plaas Morgenzon waarop die grotingang geleë is, later in 1969 deur die Transvaalse Provinsiale Administrasie aangekoop. Hierdie stap is gedoen om die grot te bewaar en ook om toekomstige benutting daarvan op 'n wel deurdagte wyse te ondersoek.

Vir hierdie doel is 'n Komitee van Ondersoek na die Wolkberggrot onder voorsitterskap van Professor J.F. (Hannes) Eloff, hoof van die Universiteit Pretoria se Departement Argeologie, gestig. In die omvattende verslag wat deur die SASV voorgelê is na hul ondersoek, wat ook later gepubliseer is, is 'n gedeelte gewy aan die ontdekking van die grot. Hoewel dit goedertrou gebaseer is op inligting wat toé beskikbaar was, het latere ondersoeke en inligting getoon dat dit in sekere opsigte nie korrek is nie. Die doel van hierdie artikel is om die nuwe feite aangaande die ontdekking, waar dit bevestig kon word, voor te lê.

Volgens mnr Frans Gerhardus Johannes Wiid, wat saam met sy vrou „Nonnie" onlangs op Haenertsburg hulle goue bruilof herdenk het, het die eerste blankes hulle eers na 1907 in die Wolkberggebied gevestig. Die aangrensende plaas aan Morgenzon, Mizpah, is oorspronklik deur Theuns en Piet Botha bewoon. Dit het verskeie kere van eienaar verwissel totdat dit op 13 November 1926 deur Cornelis Jacob Human en Lourens Erasmus Smit aan Frans Johannes Meintjies en sy vyf minderjarige kinders verkoop is. Dit was dan ook die tweede oudste seun, Jan Hendrik Stephanus Meintjies, wat die Wolkberggrot ontdek het. Volgens die ouer garde wat in die omgewing woon het niemand van die grot geweet nie. Dit is betekenisvol dat die grot ook geen bantoenaam het nie.

Die ingang van die grot is 'n skouspelagtige vertikale skag van bykans 20 meter diep. Tot in die laat sestigerjare was daar 'n pragtige wildevyboom aan die bopunt van die skag en het sy gekrulde wortels gegroei tot aan die bodem van die skag. 'n Onsinnige daad van vandalisme waardeur die wortels afgekap is het egter veroorsaak dat dié ou boom geleidelik doodgegaan het. Kort nadat die Meintjies familie in November 1926 op die plaas Mizpah gaan woon het, het Jan rooiribbokke, wat toe nog volop in die omgewing was, gaan jag. Hy is gebore op 4 April 1907 en was toe negentien of twintig jaar oud. Tydens die jagtog het hy 'n ribbok swaar gekwes en dié het gevlug met die rooierige steekhaarjaghond, wat Jan vergesel het, op sy hakke. Deur die duidelike bloedspoor te volg het hy afgekom op die skagingang waar beide diere ingeval het. Hy het waaghalsig met die wildevywortels afgeklim tot op die bodem waar hy albei dood aangetref het. Omdat hy geen lig by hom gehad het nie, het hy nie verder die grot ingegaan nie.

Hy het egter spoedig dieselfde dag saam met sy broer John teruggekeer en was toegerus met karbiedlanterns en 'n parafienlampie. Nadat hulle die dooie rooiribbok verwyder het het hulle die eerste kamer van die grot verken. Hulle was klaarblyklik die eerste mense wat die grot betree het aangesien daar geen tekens van vorige menslike teenwoordigheid was nie. Dit was John Meintjies wat Frans Wiid en die ander bure van die ontdekking ver-

M.I. Scholes

Mnr J.J. "Hansie" Meintjies.

J Esser

'n Pragtige rooiribbokram in tipiese bergagtige omgewing, net soos die een wat na die grot se ontdekking gelei het.

'n Speleoloog sak af in die skagingang van die grot. ▲

Ragfyn formasies dolomitiese kristalle vorm 'n pragtige ruiker. ▶

'n Unieke formasie, wat gepas die „Troukoek" genoem word. ▶▶

euse stalaktiete en stalagmiete verdwerg 'n grotkruiper met sy brandende koplamp. ▼

itsonderlike kalksteen formasies in die ieper dele van die grot.

W.A.L. Gamble

W.A.L. Gamble

'n Speleoloog staan langs een van die menige indrukwekkende pilare.

el het. Ongeveer 'n maand later het die wee broers weer die grot besoek, vergesel van hulle neef Johannes Jacobus Hansie) Meintjies, wat vandag die enigste oorlewende van die drie is. Hansie Meint-ies kan die skouspelagtige prag van die grot nog helder voor die gees roep. Hy onthou veral die ongelooflike witheid en afwesigheid van stof en beskryf die grotvloer as 'n spierwit harde kors wat oortrek was met wit ,,blommetjies" wat gekraak het wanneer daarop getrap is. Hy het eenkeer geweldig geskrik toe hy deur die kors ge-rap het en kniediep in vlermuismis beland het.

Hierna is die grot dikwels deur die Meintjies kinders en hul vriende, asook later deur lede van die publiek, besoek. Tydens die besoeke is die kristalblommetjies op die grotvloer vertrap en is daar ook van die stalagmiete en stalaktiete verwyder. Die grootste skade is egter aangerig toe die dik laag vlermuismis op die vloer van die eerste kamer kommersieël ontgin is. Dit het hoofsaaklik gedurende die Tweede Wêreldoorlog plaasgevind toe kunsmis skaars was, en die plaas nog staatseiendom was. Die mis is met 'n wenas uit die skag gehys en is met pakdonkies na 'n vragmotor vervoer. Volgens die SASV verslag is die tweede, onbeskadigde, grotkamer klaarblyklik deur ou ,,Jack" Letsoalo in 1965 ontdek. Jan Meintjies se dogter Isabel (tans mev. M.C. Mienie van Pretoria-Noord) hou egter vol dat sy en ander van die Meintjies kinders die tweede kamer lank voor dié datum verken het. Haar tante, mev. Ella Vorster (Hansie se suster) bevestig hierdie stelling asook vroeëre kennis van die binnemeer.

Om betreding van die grot deur ongemagtigde besoekers, wat onherstelbare skade aan die delikate formasies kan berokken, te voorkom, was dit nodig vir die Transvaalse Provinsiale Administrasie om die grotingang te verseël. Hierdie unieke erfenis moet beskerm word terwyl die versigtige ondersoek daarvan voortgesit word. 'n Meer natuurlike ontwikkeling van die grot vir besoekers, gebaseer op Amerikaanse metodes sonder gekleurde ligte, word in die vooruitsig gestel. 'n Span deskundiges van die Grotnavorsingsorganisasie van Suid-Afrika en die Suid-Afrikaanse Onderwater Duik-unie onder die bekwame leiding van Bill Gregory en Roly Nyman onderskeidelik, is tans besig met 'n deurtastende ondersoek van die grot. Hulle is besig om die SASV ondersoek uit te brei om die ondergrondse mere en waterkanale in te sluit en het reeds opwindende ontdekkings gemaak. Slegs deur 'n grondige kennis van die Wolkberggrot kan die volle potensiaal daarvan geëvalueer en benut word sonder om die natuurlike bates en prag prys te gee.

PETER GINN
Peterhouseskool, Marandellas

Die skugtere Afrikaanse watertrapper

Die Afrikaanse watertrapper *Podica senegalensis* word deur amateur voëlwaarnemers as 'n baie seldsame voëlsoort in Suid-Afrika beskou. Daar is baie ervare voëlwaarnemers wat hierdie voël nog nooit gesien het nie, en tot onlangs was ek ook van mening dat die watertrapper onder ons seldsaamste soorte gereken moet word. Tans is ek egter van mening dat hierdie voëls gladnie so seldsaam is nie, maar net uiters skugter is. Die doel van hierdie artikel is om die leser se aandag op hierdie ontwykende soort te vestig, met die hoop om meer inligting oor dié voëlsoort te verkry.

Ons watertrapper is een van slegs drie soorte wat in die wêreld voorkom; die ander twee word in Asië en Suid-Amerika aangetref. In 'n artikel oor die Amerikaanse watertrapper, (1971, *Living Bird* 10: 79-88) vestig Miguel Alvarez Del Toro aandag op enkele interessante eienskappe, waaronder die baie kort broeityd en spesiaal ontwikkelde buidels onder die mannetjie se vlerke. Die jong kuikens word in dié buidelsakke gedra. Of hierdie eienskappe ook teenwoordig is in die Afrikaanse watertrapper, behoort ondersoek te word.

Die Afrikaanse watertrapper word aangetref in riviere met poele stadig vloeiende water, en dit blyk dat veral poele met oorhangende plantegroei verkies word. Tensy die voël daartoe gedwing word, waag hy dit selde om in die oop water te swem, en is hy meestal in die water onder oorhangende takke te vinde.

Danksy die gasvryheid van die Bomford familie van Marandellas was ek onlangs bevoorreg om 'n watertrapper by die nes te fotografeer. Gedurende die ongeveer veertien uur wat ek in 'n nabygeleë skuiling vertoef het, kon ek 'n aantal interessante waarnemings maak. Die nes van growwe gras is op 'n sytak gebou wat oor die water gehang het. Die twee eiers in die nes het gelyk soos dié van 'n korhaan en was besonder rond.

Ongelukkig het een eier later verdwyn maar dit het nie die voortgesette bebroeiing van die ander eier versteur nie. Die tak wat die nes dra was ongeveer 1,5 meter na ondertoe gebuig tot in die water. Die effens gebuigde tak het 'n volmaakte trapleer vanuit die water na die nes gevorm en in meeste gevalle het die wyfie dit gebruik om die nes te bereik. Tweekeer het sy egter na die nes opgevlieg deur uit die water te spring om met 'n kragtige geklap van vlerke feitlik loodreg op te styg.

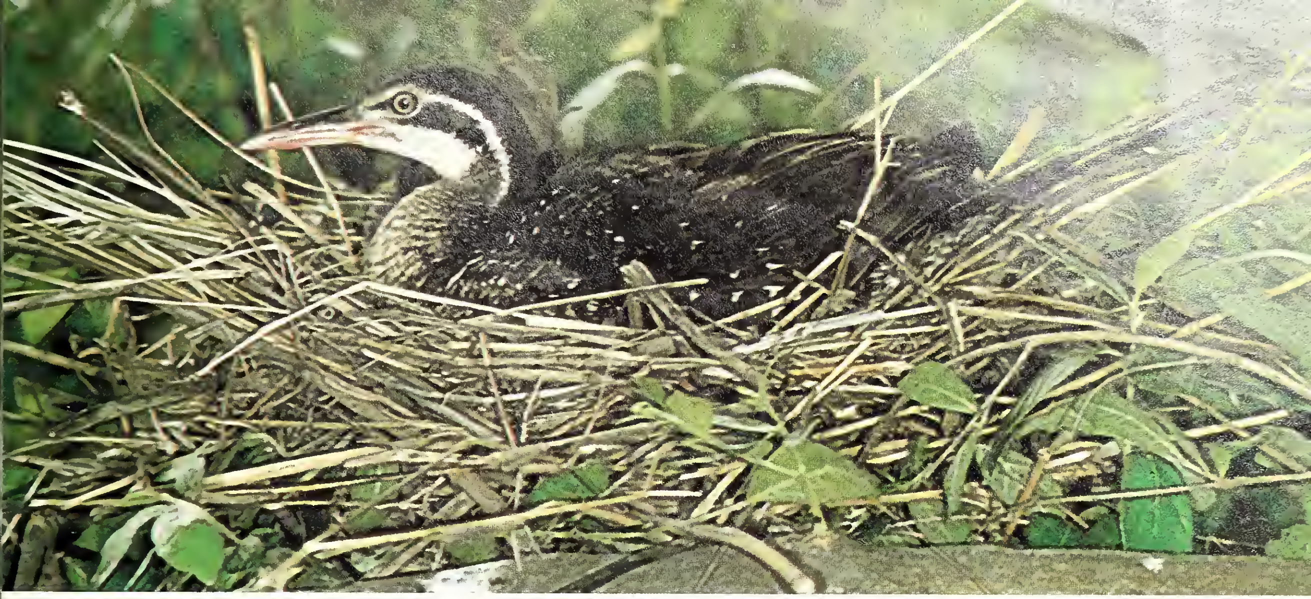
Telkens wanneer die voël met die tak opgeklim het om by die nes te kom, het sy iewers naby die nes gaan staan om haar te tooi. Dit het gelyk asof sy die water van haar vere afgevee het. Die helder oranje pote met die opvallende geel kloue was dan duidelik sigbaar. Op hierdie stadium het sy dan ook gewoonlik my skuiling betrag. Sy was senuagtig tydens my eerste besoek aan die skuiling nadat dit opgerig is, maar dit het haar blykbaar nie gesteur tydens latere besoeke nie. Sodra haar vere droog was, het sy na die nes toe gegaan om op die eiers te sit. Wanneer sy versteur was, het sy vinnig van die nes af gestap, op haar pens in die water geplons en rats weggeswem. Op geen stadium het ek gesien dat sy van die nes af in die water geduik het nie, maar eens in die water, het sy nie geaarsel om te duik as sy dit nodig geag het nie. Wanneer die watertrapper swem, lê die liggaam taamlik hoog uit die water en is dit opvallend hoe die stert plat en uitgespreid op die water gehou word.

Die oorblywende eier het verdwyn tussen die negende en dertiende dag nadat die eiers gelê is. Ongelukkig was dit nie moontlik om vas te stel of dit uitgebroei het of deur 'n roofdier verorber is nie. Gesien in die lig van die ongewone kort broeityd, het die kuiken waarskynlik uitgebroei.

Eenkeer, terwyl ek in die skuiling was, het ek gesien hoedat die wyfie stadig langs die oorkantste oewer van die poel af beweeg het. Sy was besig om iets in die plantegroei net bokant die watervlak te vreet en ek het aangeneem dat dit insekte was. Dit was my enigste observasie aangaande die metode van voeding. Die voël het nooit ver van die riete af beweeg nie en het gedurig gepoog om liewers onder 'n riet deur te beweeg, eerder as om uit te beweeg en om dit te swem. Behalwe vir die opvlieg na die nes het ek die voël nooit sien vlieg nie, maar wanneer sy deur die aankoms van my helper versteur is, het die watertrapper met behulp van haar vlerke en pote oor die water gehardloop om vinniger te kan beweeg.

Tydens my waarnemings het ek nooit die mannetjie by die nes gesien nie, hoewel hy dikwels onder die nes verby geswem het. Dit is moontlik dat hy meer dikwels teenwoordig was as wat ek waargeneem het, maar omdat albei voëls so stadig en stil beweeg, kon dit maklik gebeur het dat ek hulle net nie raakgesien het nie.

Die watertrapper is so skugter dat dit onwaarskynlik is dat jag 'n nadelige uitwerking op hom sal hê. Vanweë sy gespesialiseerde habitat-behoeftes, is die voël egter baie kwesbaar waar die habitat vernietig word. Die onoordeelkundige verwydering van bome en bosse langs



Slegs die wyfie watertrapper bro

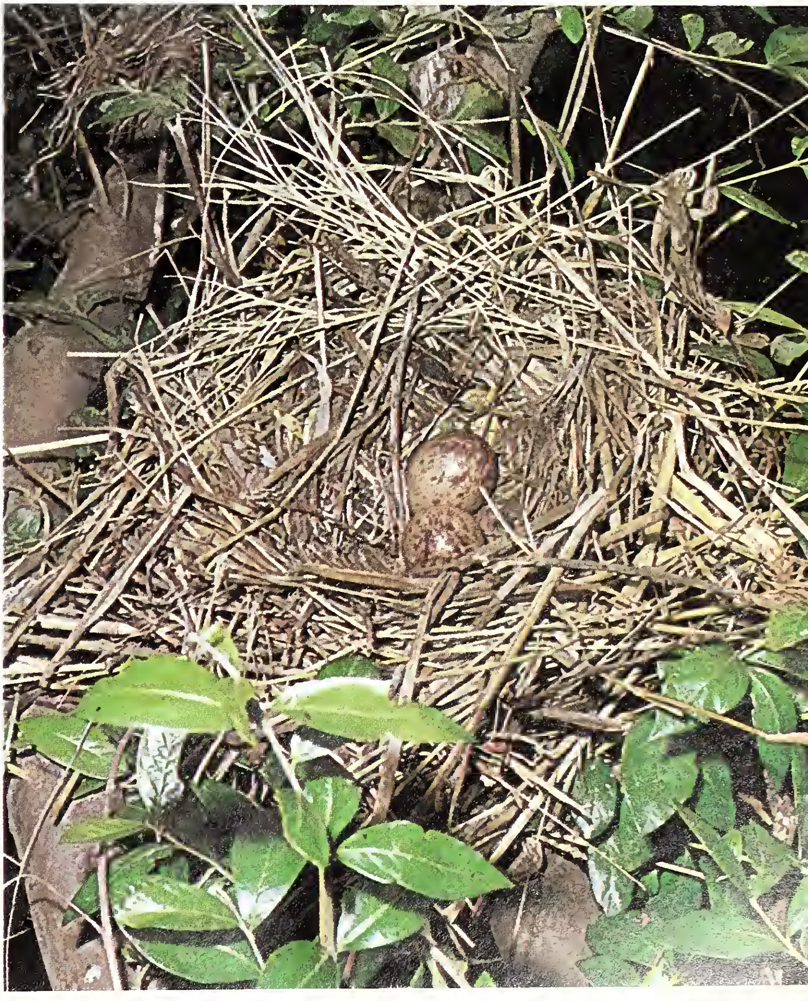
◀ *Die manier waarop die uitgespreide stert plat op die water lê is 'n werklike unieke eienskap.*

Foto's: P J. Ginn

◀ *Die wyfie nader die nes, let op na die helder geel kloue.*

riviere waardeur die skuiling, waarvan die voël vir sy beskerming afhanklik is, vernietig word, kan moontlik tot sy verdwyning lei. Die afwesigheid van oorhangende plantegroei maak menige damme ook ongeskik as habitat vir hierdie voëlsoort.

Voëlwaarnemers behoort fyn op te let vir hierdie soort langs die riviere van die oostelike helfte van Suider-Afrika waar geskikte habitat voorkom. Die waarnemer se moeite sal egter slegs beloon word waar hy bereid is om lank stil te sit op 'n uitkykpunt vanwaar hy 'n geskikte poel kan waarneem. As u genoegsame geduld het, mag u gelukkig wees om 'n watertrapper te sien. Ek sal dit op prys stel om te verneem van lesers wat oor inligting beskik van hierdie soort; veral soek ek gegewens oor sy voedingsgewoontes en gedrag. Hoewel reeds heelwat oor die voël geskryf is, is daar nog baie groot gapings in ons kennis oor sekere aspekte van sy leefwyse. Ek is van mening dat, met die steeds toenemende vernietiging van habitat en die besoedeling van riviere, hierdie soort veel seldsamer kan word as wat dit tans is. Hoe eerder ons dus meer omtrent sy besondere habitatbehoeftes en algemene ekologie te wete kom, hoe groter is die moontlikheid om dit van die lys van bedreigde voëlsoorte af te hou.



Die ooreenkoms van die eiers in kleur en vorm met die van 'n korhaan is ooglopend.

San Viljoen

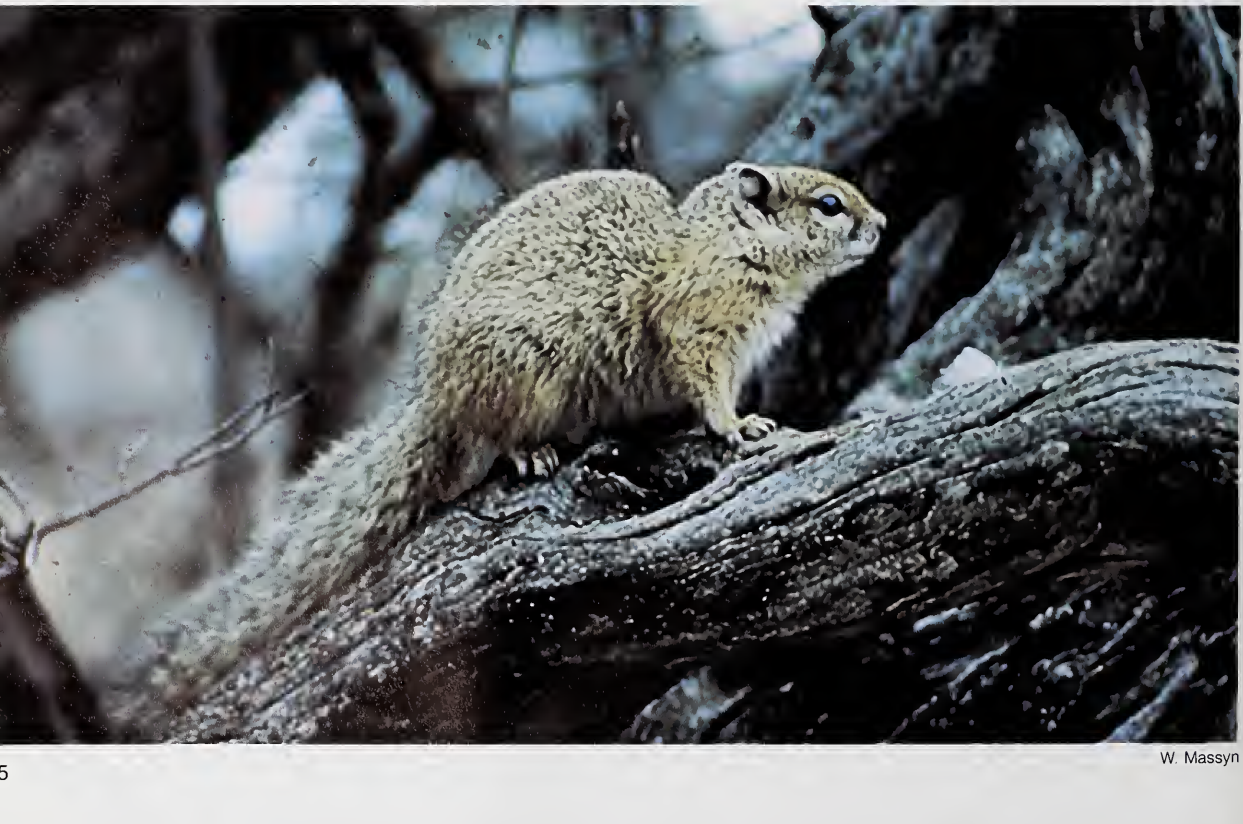
Departement Dierkunde, Universiteit van Pretoria

Die Geelpoot-eekhorinkie van die bosveld

Die interessante geelpoot-eekhorinkie, *Paraxerus cepapi*, is inheems in die warmer dele van Transvaal. Buite ons grense kon hulle in Botswana, die noordelike dele van Suidwes-Afrika, Angola, Rhodesië, Mosambiek, Zambië, Malawi, suidoostelike Zaire en suidwestelike Tanzanië voor. Twee naverwante eekhorings kom in Zoeloeland voor wat oranje en rooi skakerings op die onderkant van die lyf en sterthare vertoon in teenstelling met die wit tot geelbruin van die bosveld eekhoring. Tans word albei onder *P. palliatus* geklassifiseer, en is hulle die Tongalandse geelkeel-eekhoring, wat vanaf die St. Luciameer in die suide tot aan die noordelike grens met Mosambiek voorkom, en die totaal geïsoleerde Ngoye rooi-eekhoring van die Ngoye immergroen woud in die Eshowe distrik. Daar is net een ander inheemse eekhorinkie in Suid-Afrika, en dit is die bekende waaierstert-eekhorinkie *Xerus inauris*, wat heeltemal verkeerdelik deur party mense as 'n meerkat beskou word.

Die geelpoot-eekhorinkies woon saam in groepies van gewoonlik twee tot ses individue. Normaalweg bestaan so 'n groep uit 'n volwasse mannetjie en wyfie met tot drie kleintjies. Soms is die groep egter groter, soos byvoorbeeld in een geval waar twee mannetjies, drie wyfies en sewe kleintjies saam een boom bewoon het. Alhoewel alleenlopende eekhorinkies soms bedags gesien word, is die res van die groep gewoonlik nie ver weg nie, en

'n Geelpoot-eekhoring in 'n waaksame houding.



W. Massyn

'n Jong eekhorinkie op die punt om die nes binne te gaan.

S. Viljoen

saans kom hulle dan in een boom byeen om te slaap. Natuurlike gate in bome, of gate deur houtkappers of spegte uitgehol, word deur alle lede van die groep met blaartjies en gras uitgevoer om 'n nes te vorm.

In Botswana is waargeneem dat geboortes dwarsdeur die jaar voorkom, maar in die Transvaal is daar 'n piek van September tot Januarie. Die kleintjies, gewoonlik twee per werpsel, is binne drie weke na geboorte uit die nes en begin dan reeds na vaste kos te soek. Hulle beweeg die eerste paar dae meestal in hul tuisboom rond waar hulle stukkies bas en blare kou. Na 'n week of wat begin hulle hul ouers volg. Hulle is dan reeds heeltemal selfstandig. Behalwe vir 'n spelerige gejaag nou en dan, moet hulle steeds baie waaksaam wees terwyl hul ywerig soek na bessies, sade, grassies, miere of termiete. Soms sal hulle 'n anders onbereikbare aalwynblom bespring, saam met die stammetjie afswaai grond toe, die blom dan met die skerp tandjies afpluk en die nektar agter uitsuig. Jong eekhorinkies het 'n baie hoë oorlewingsyfer gedurende die eerste paar maande van hulle leeftyd. In een geval waar twaalf kleintjies dopgehou is, was almal vier maande na geboorte nog teenwoordig.

Geelpooteekhorinkies beweeg groot afstande op die grond en moet dus vanselfsprekend uiters oplettend en rats wees om gevaar te ontduik. Binne sowat 30 sekondes kan 'n volwasse eekhoring maklik 100 meter ver taklangs beweeg en hulle waag ook 2,5 meter lange spronge in die teenwoordigheid van indringers of as ander gevare dreig. Die eekhorinkies maak grotendeels op hul gehoorsin staat om gevaar te bespeur en kan selfs die geringste ritseling hoor. Hul oë is ook baie skerp en vreemde voorwerpe, selfs as dit nie beweeg nie, word maklik raakgesien.

Hul waarskuwingsisteem is uitgebreid en behels benewens 'n visuele vertoon, naamlik die herhaaldelike op-en-afswaai van die uitgespreide stert, ook intense vokalisasies wat ongelooflik hard vir so 'n klein diertjie is. Wanneer 'n roofvoël oorvlieg, word die alarmfluit van die eekhorings dikwels uit verskeie rigtings gehoor. Die fluit ontketen onmiddellik 'n vlugreaksie, veral onder jong eekhorinkies.

Roepe word ook ingespan om 'n bepaalde loopgebied of territorium te beskerm teen ander eekhorings. Dit word gedemonstreer wanneer twee pare eekhorinkies in aangrensende hokke geplaas word. Beide mannetjies en wyfies mag dan luidkeels probeer om hul bure te verjaag, al is hulle anderkant die draad. Een-dag-oud eekhorinkies se roepe is reeds kenmerkend van dié van 'n eekhoring.

Reuk speel 'n belangrike rol by die herkenning van eekhorings van dieselfde groep. By ontmoeting ruik hulle eers langs mekaar se bekke om agter te kom of dit 'n bekende is. Indien dit 'n vreemdeling is, word alarm gemaak. Wanneer 'n vreemde eekhoring in 'n hok saam met ander geplaas word, kan dit 'n hewige reaksie van die bewoners uitlok wat tot die dood van die ondergeskikte diertjie, gewoonlik die vreemdeling, kan lei.

Eekhorings bestee baie tyd om hulself en ander lede van hul groepie met die tande te roskam. Die kleintjies word dikwels deur die volwassenes vasgehou en so skoongemaak. Hierdie skoonmaakgedrag van eekhorings vervul 'n sosiale funksie waardeur die reuk van al die lede in die groep oor mekaar versprei word vir uitkenningsdoeleindes.

„Having a ball" in 'n tipiese eekhorinkie vreethouding.

P. Barichievy

'n Geelpoot-eekhorinkie besig om homself te roskam.

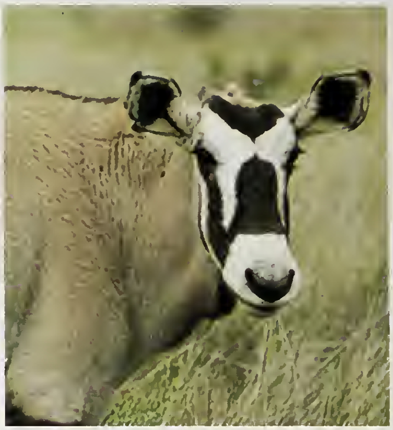
S. Viljoen

Die GEMSBOKKUDDE op die S.A. Lombard-natuurreservaat

J.H.M. van Zyl

Transvaalse Onderwysdepartement

Die merkwaardige ou gemsbokkoei ,,Koster" wat beide haar horings verloor het.



J.H.M van Zyl

W. Massyn

'n Gedeelte van die gemsbokkudde op die S.A. Lombard-natuurreservaat.

Sedert die totstandkoming van die Transvaalse Afdeling Natuurbewaring was dit een van sy prioriteite om teelkuddes van skaars inheemse wildsoorte van die provinsie op sy reservate daar te stel. In ooreenstemming met dié beleid is 'n kudde gemsbokke op die S.A. Lombard-natuureservaat te Bloemhof in die suidwestelike Transvaal gevestig. Die eerste twee gemsbokke is in 1952 op die reservaat ingevoer. Daar was egter in 1965 nog net drie bulle en een koei op die reservaat. Een bul is vanaf die Nasionale Dieretuin in Preoria bekom, een is op die reservaat gebore en die ander was waarskynlik uit die Kalahari afkomstig. Die koei is op 8 Desember 1960 daar losgelaat. Sy was toe reeds drie jaar oud en van die plaas Steenbokfontein in die distrik Koster afkomstig.

Die koei, wat ,,Koster" gedoop is, was hans grootgemaak en het van die begin af verkies om saam met die beeste te loop eerder as met die gemsbokkudde. Sy het die eerste keer in 1965 gekalf op die reatief hoë ouderdom van agt jaar. In weerwil hiervan het Koster vanaf Mei 1965 tot November 1972 agt kalwers geproduseer, vyf hiervan verse. Sy het haar laaste kalf gehad toe sy vyftien jaar oud was en hoewel sy vandag nog leef, verkeer sy die afgelope drie jaar, ten spyte van spesiale sorg, nie in 'n goeie toestand nie. Soos op meegaande foto gesien kan word is beide haar horings in kleiner ongelukkies afgebreek. As gevolg van die swak toestand van haar tande word sy daagliks met 'n rantsoen mieliemeel gepamperlang.

Die Bloemhof se gemsbokkudde het viervoudig vermeerder vanaf 1965 tot 1970 maar het, met wat as 'n normale toename beskou kan word, slegs verdubbel in die daaropvolgende vyf jaar. Die buitengewone toename in die eerste vyf jaar tot 1970 kan toegeskryf word aan die getal vroulike nakomelinge wat Koster geproduseer het.

Waardevolle gegewens oor die teelgewoontes van die gemsboktrop in die reservaat is sistematies deur veldwaarnemings versamel. Die gemiddelde massa van kalwers by geboorte is 12,8 kg en daar is geen betekenisvolle verskil in die geboortemassa van die twee geslagte nie. Dit is gevind dat 'n gemsbok volgroei is op 12 maande leeftyd en dat dit baie moeilik vir 'n onervare waarnemer is om te onderskei tussen 'n jaaroue dier en 'n volwasse bok. Dit blyk dat die gemsbokke by Bloemhof begin kalf op 'n ouderdom van 26 maande.

Die piek van die kalfseisoen is in Augustus en September hoewel kalwers gebore word vanaf Mei tot Januarie. Die dragtydperk is ongeveer 9 maande en die paarseisoen is hoofsaaklik gedurende November en Desember. Om hierdie rede is dit belangrik dat, veral vanaf Julie tot September, versteuring van sulke teelkuddes nie toegelaat word nie.

Haar afstammelinge tel reeds 33 en dit is duidelik dat die suksesvolle vestiging van die kudde te danke is aan Koster se bydrae. Vanaf 1965 tot 1970 was daar geen verliese in die trop nie, behalwe vir die oortollige bulle wat weggeneem is, maar sedert 1970 was daar vyf gevalle waar kalwers gevrek het. Van dié kalwers se kondisie was swak en hulle was ook swaar besmet met uitwendige parasiete. Die presiese oorsake van die mortaliteite kon nie vasgestel word nie. Hierdie vrektes verteenwoordig nie 'n natuurlike verskynsel op die reservaat nie aangesien die gemsbokke hier algemeen dwarsdeur die jaar in goeie kondisie verkeer. In dié periode was die enigste ander verliese 'n koei wat van plantvergiftiging gevrek het en 'n ander as gevolg van bakleiery in die trop.

'n nuwe proteasoort in Transvaal ontdek

Lynette Davidson
Departement Plantkunde,
Universiteit van die Witwatersrand

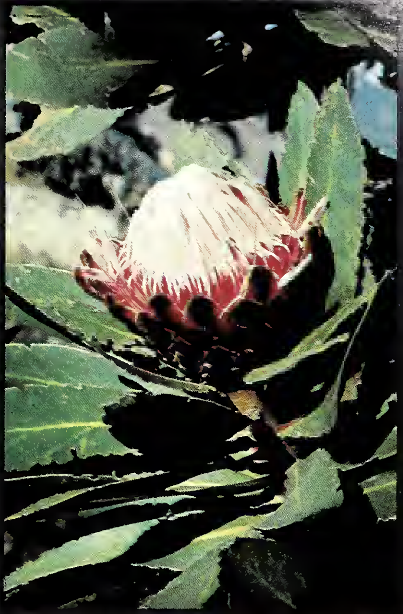
Tydens die aanbou van die berghutte by die F.H. Odendaaloord in die Blyderiverspoort-natuurreservaat is ook 'n sirkel-vormige voetslaanpad in die vallei onderkant die kamp uitgelê. Ek is versoek om 'n botaniese beskrywing van die plante langs die natuurpaadjie op te stel. Hieronder was 'n klein proteaboompie wat relatief volop op die hange voorgekom het. Daar is altyd gemeen dat dit *Protea rhodantha* is. By nadere ondersoek het ek besef dat dit nie *Protea rhodantha* was nie. Dit was iets heel anders met sy silwer, syagtige hare wat die karmosynkleurige skutblare bedek en daarby die lang steel aan die basis van die kelk wat deur die skutblare gevorm word. Verder is hierdie plant se piek blomtyd April en Mei, en nie in die hartjie van die somer wanneer *Protea rhodantha* blom nie. Hierdie besef het my aangespoor om ondersoek in te stel na al die proteasoorte wat in die Transvaal voorkom.

In die Blyde gebied word *Protea rhodantha* wel aangetref. Dit lyk baie soos *Protea caffra* wat algemeen in baie dele van Transvaal voorkom, en wat maklik uitgeken word as die proteaboom met grys blare soos algemeen in die rante by Krugersdorp en naby Hartbeespoortdam aangetref. Die mooiste van al die Transvaalse proteas, *Protea rubropilosa,* kom ook in die Blyderivierspoort-natuurreservaat voor. Dit is 'n sterk boompie wat redelike groot blomme dra. Die skutblare is met rooibruin, fluweelagtige haartjies bedekn en die binnekant van die kelk is 'n helder rooi aarbei-kleur. Hulle blom gedurende September en kan langs die paadjie na die Drie Rondawels-uitkykpunt by Blyde gesien word. Ook hier teenwoordig is *Protea gaguedi,* wat aan die einde van die winter klein silwer-wit blommetjies dra en soms ook in Desember blom.

Die nuwe protea was egter nie een van hierdie soorte nie. 'n Moontlike verwantskap aan die skaars *Protea curvata* wat slegs op een koppie naby Barberton voorkom is nagegaan maar dit het nie enige van dieselfde eienskappe gehad nie, en was ook nie verwant aan *Protea comptonii,* wat groot wit blomme dra, en in die berge suid van Barberton voorkom nie.

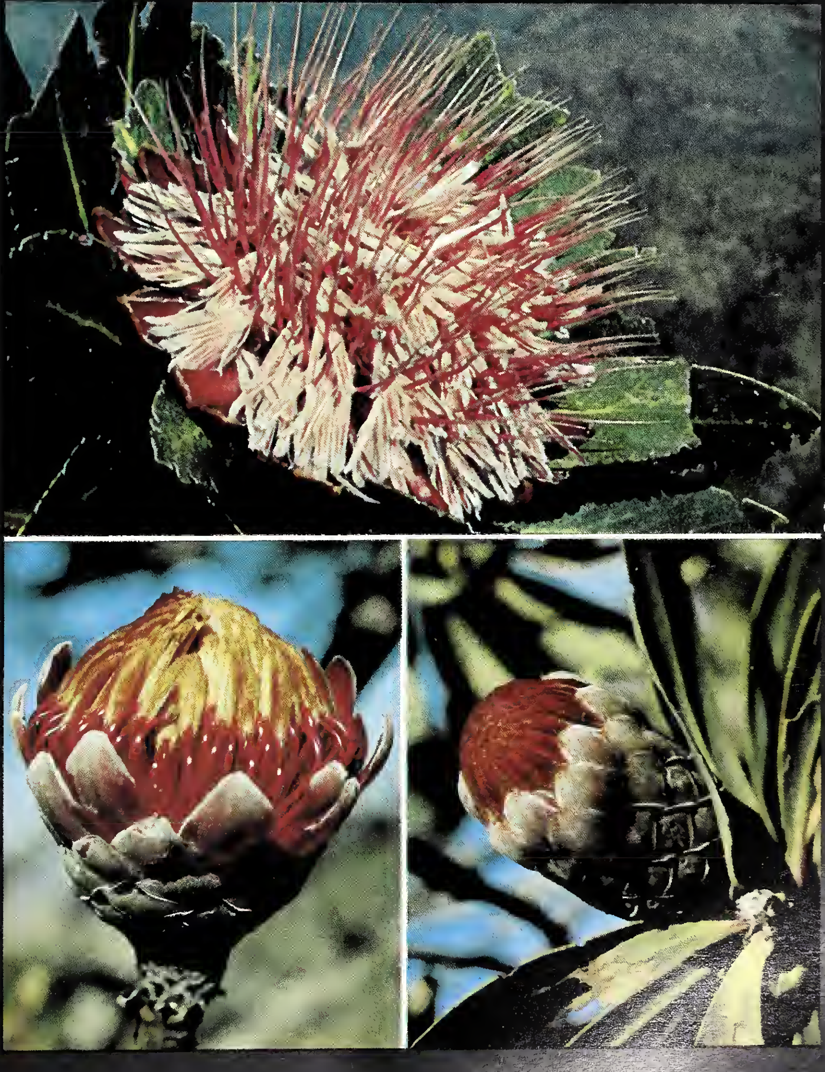
Dit het verder geen ooreenkoms met die silwerblaar *Protea roupelleae* getoon nie, en ook nie met die harige *Protea welwitschii* wat klein blommetjies dra en wat noord van Johannesburg en oor die hele sentraal Transvaal voorkom nie. Die twee ander Transvaalse soorte is albei dwergsoorte: die klein, laaggroeiende *Protea parvula* in die berge naby Lydenburg, en *Protea transvaalensis* naby Haenertsburg.

Hierdie was dus 'n nuwe soort wat beperk is tot die heuwels naby die vakansieoord in die Blyderiverspoort-natuurreservaat. Aangesien ,,Blyde'' geluk beteken, is daar besluit om dit *Protea laetans* te noem, die protea van geluk.



G. Coetzee

Verskillende blomstadia van Protea laetans.



P. Barichievy

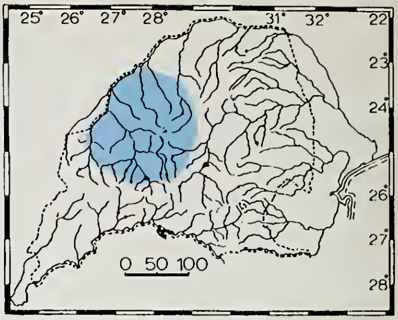
G. Coetzee

kanariekurper

Chetia flaviventris

Dr E J Krüger

Transvaalse Afdeling Natuurbewaring

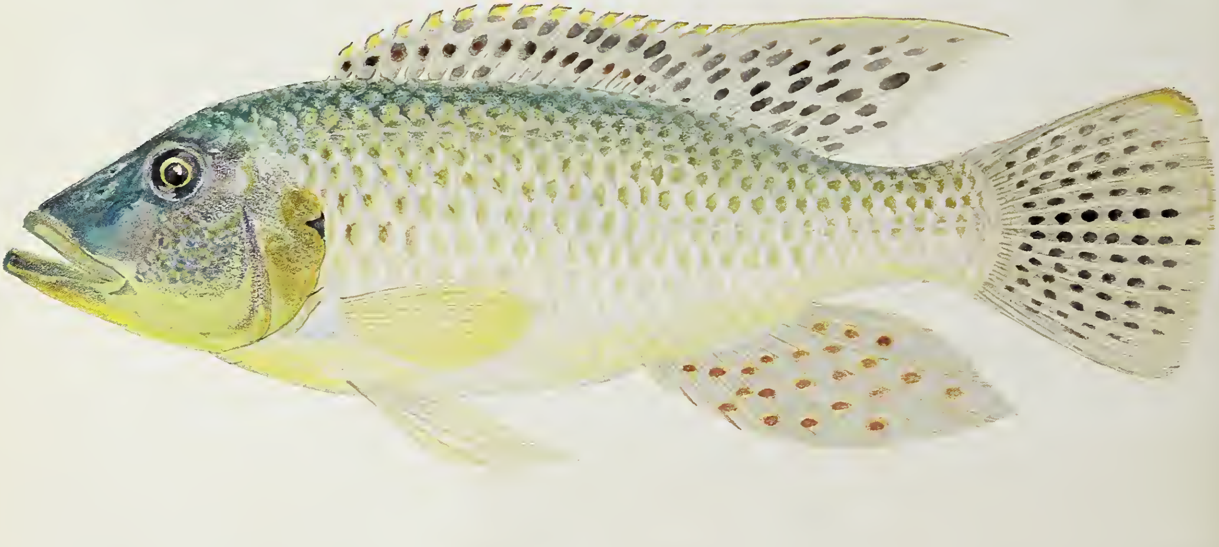


Elke hengelaar wat al in Hartbeespoortdam of omstreke gaan visvang het, het seker al kennis gemaak met die kanarie kurper. Dit is hy wat so lastig by die aas kan wees wanneer vir die gesogte bloukurper gehengel word. Die kanarie kurper het 'n beperkte verspreidingsgebied en is eie aan die Limpoporiversisteem, en dan ook slegs in waters 600 meter of hoër bokant seespieël. 'n Beperkende faktor vir sy verspreiding is blykbaar die suurstofinhoud van die water. Kanariekurpers wat in die Hans Merenskydam by Tzaneen gevestig is, is wederegtelik deur hengelaars daar losgelaat.

Die vis se populêre naam is ontleen aan die heldergeel gekleurde buikgedeeltes. Die vis bereik selde 'n lengte van 30 sentimeter en die bek is ook groter as die van 'n tipiese kurper. Op die dorsale en anale vinne kom opvallende groterige kolle voor wat blykbaar 'n rol speel tydens die broeiaktiwiteit. Hierdie kurper is naverwant aan die grootbekkurper, maar laasgenoemde word slegs in 'n baie beperkte gebied in die Oos-Transvaalse laeveld aangetref.

Die kanarie kurper is 'n bekbroeier, dit wil sê die eiers word in 'n holte in die dambodem gelê en, na bevrugting deur die mannetjie, deur die wyfie opgeneem en in die bek rondgedra totdat hul uitbroei. Hierdie vissoort is 'n baie suksesvolle broeier, dikwels tot nadeel van ander meer geskikte hengelvissorte. Die kanarie kurper is 'n roofvis wat 'n wye verskeidenheid organismes sal vreet, selfs klein vissies.

Daar is geen beperkings op die getalle en grootte van hierdie vissoort wat uit publieke waters gehengel mag word nie.



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Transvaalse Afdeling Natuurbewaring

fauna & flora

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APRIL 1977

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oto: P. Barichievy

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Kunstenares:
Alette Lambrechts.

auna & Flora is 'n publikasie van die ransvaalse Afdeling Natuurbewaring en vord van tyd tot tyd in Afrikaans en Engels gepubliseer vanaf die Hoofkantoor van die Afdeling, Kerkstraat, Pretoria.

ntekening is gratis. Skriftelike aansoeke noet gerig word aan: Die Direkteur, ransvaalse Afdeling Natuurbewaring, Privaatsak X209, Pretoria, 0001.

SBN 0 7991 0162

Gedruk in die Republiek van Suid-Afrika deur Everton Offset (Edms) Bpk.

Suid-Afrika se pragtige natuurskoon word in 'n steeds toenemende mate deur landboukundige uitbreiding en industriële ontwikkeling bedreig. Die voortbestaan van talle seldsame plant- en diersoorte is reeds in die weegskaal terwyl die een mooi natuurgebied na die ander vir landerye, plantasies of nuwe dorpe en stede moet plek maak. Die Transvaalse Afdeling Natuurbewaring stel dit ten doel om daadwerklike beskerming aan ons bedreigde natuurerfenis in 'n vinnig veranderende wêreld te verleen . . . dit beteken beskerming deur die mens vir die mens.

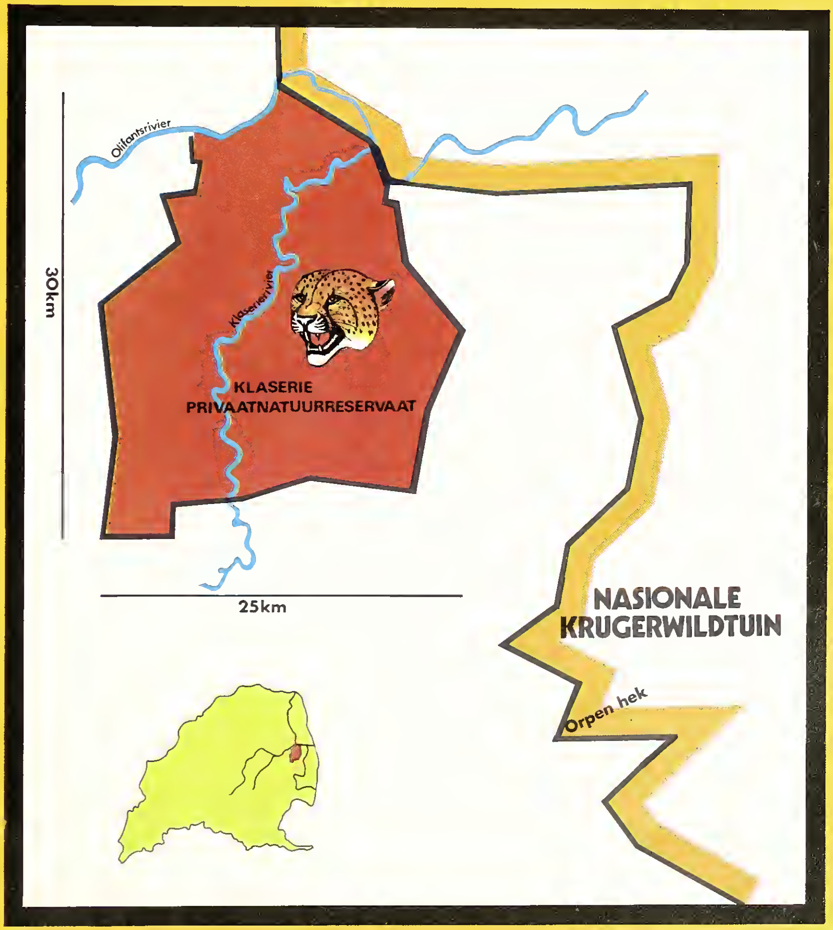
beskerm ons natuurerfenis

Transvaalse boere help met BELANGRIKE REDDINGSPOGING

Dr E. Young

Navorsing en Voorligting,
Transvaalse Afdeling Natuurbewaring, Pretoria

Suid-Afrikaanse boere het die vorige eeu reeds in natuurbewaringskringe wêreldnaam gemaak met die beskerming van bedreigde diersoorte soos die bontebok, swartwildebees en die Kaapse bergsebra. Tans lewer bewaringsbewuste Transvaalse boere 'n verdere belangrike bydrae tot die beskerming van Suid-Afrika se seldsaamste katsoort en die wêreld se vinnigste landdiersoort . . . die jagluiperd.



Nuwe bewaringsgebied vir jagluiperds.

Daar heers groot kommer oor die moontlikheid dat die jagluiperd se naam in afsienbare tyd by die steeds langer wordende lys van uitgestorwe diere gevoeg mag word. In Indië en etlike ander lande, waar groot getalle jagluiperds voorgekom het, word dié koninklike katsoort se geroep lank reeds nie meer gehoor nie . . . sal dié pragdier se spore waarskynlik nooit weer in die Oosterse woestynsand gesien word nie!

In die Krugerwildtuin geniet 'n beperkte bevolking jagluiperds spesiale beskerming. Elders in die provinsie kom klein, ontwykende groepies wilde jagluiperds ook nog, veral in die Noord- en Oos-Transvaalse bosvelddele, op plase voor. Oor die koppe van hierdie diere hang die dreigende swaard van uitwissing.

Gelukkig is daar nog bewaringbewuste boere soos Adjunk-minister Punt Janson en Mnr'e M.J. Venter, J.J. Venter en L.E. Terblanche van die Soutpansbergdistrik, wat dit vir beamptes Max Keith en André Scholtz van die Afdeling Natuurbewaring moontlik gemaak het om voldoende jagluiperds te vang om dié seldsame katsoort in een van die provinsie se grootste en mooiste reservate, die Suikerbosrand-natuurreservaat naby Heidelberg, te hervestig. Dìe feit dat nie minder nie as nege welpies binne een jaar na vrylating in die reservaat gebore is, dui op die groot mate van sukses wat met dié gesamentlike reddingspoging behaal is. Vir almal wat aan die projek deelgeneem het, veral ook die Afdeling se personeel by die Hartbeeshoek Provinsiale Kwekery, wat baie van hul privaat tyd aan die versorging van pas gevangde jagluiperds bestee het, dien dié suksesvolle projek as 'n groot aan-

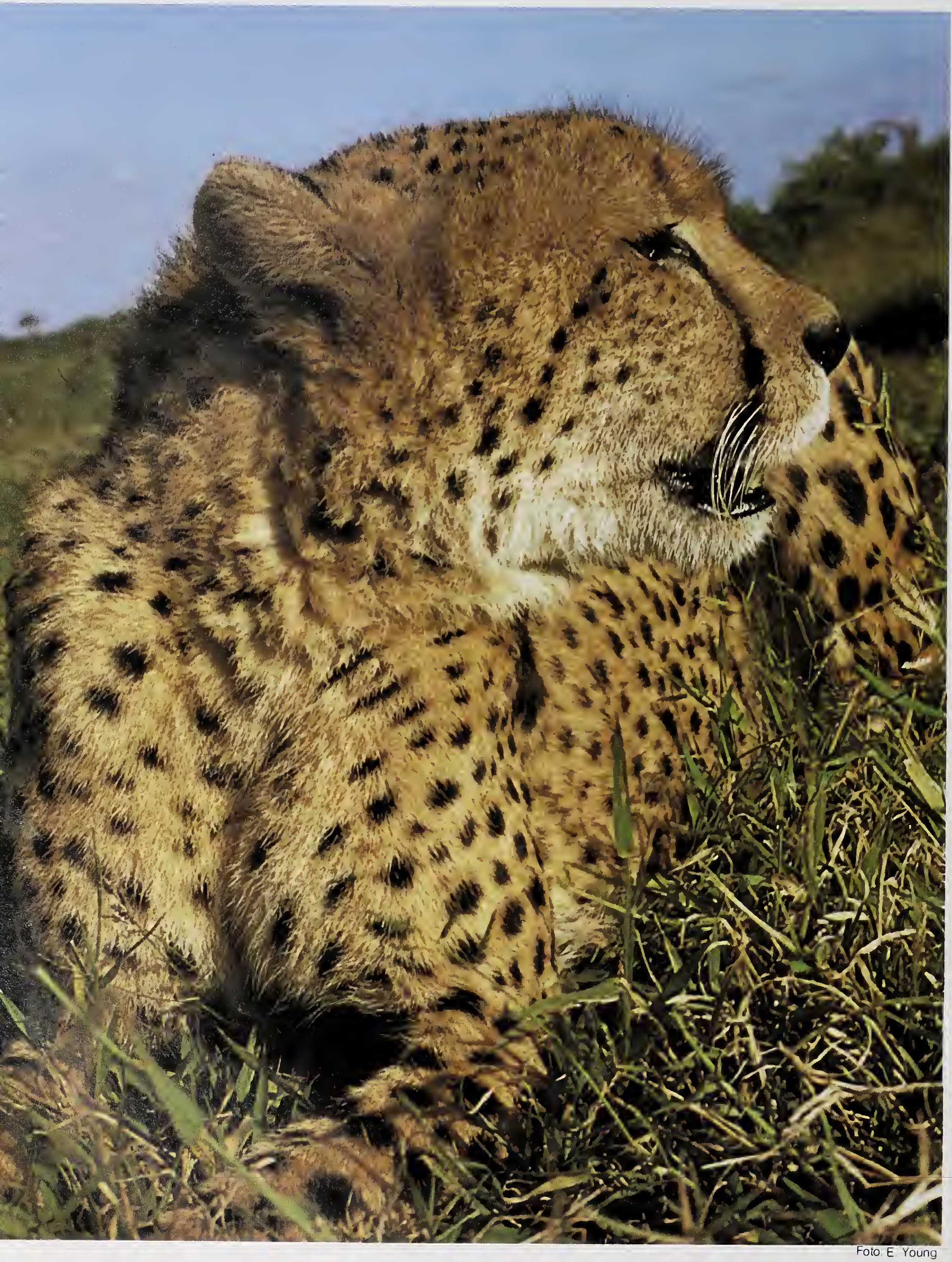


Foto: E. Young

Sowat 3 000 stuks wilde diere, waaronder springbokke en ander boksoorte, kom in die ▲
Suikerbosrand-natuurreservaat voor . . . 'n ware paradys vir die pas hervestigde jagluiperds.

Foto: Dick Wolff

'n Nuwe toekoms . . . in die vrye natuur.
Foto: E. Young ▼

moediging vir verdere bewaringspogings.

Inderwaarheid gaan dié reddingspoging steeds voort en is etlike jagluiperds onlangs ook elders in veiliger gebiede in die Transvaal, soos die Sabi Sand Wildtuin, hervestig. 'n Baie belangrike deurbraak is veral gemaak toe die sowat 70 eienaars van die Klaserie Privaatnatuurreservaat onlangs besluit het om op hul gesamentlike eiendom van sowat 60 000 hektaar (70 000 morg), wat aanliggend aan die Krugerwildtuin geleë is, spesiale beskerming aan die jagluiperd te verleen. Dié projek word in samewerking met die Transvaalse Afdeling Natuurbewaring onderneem. Dit is 'n uiters belangrike bewaringsgebied vir die jagluiperd en dié boere verdien spesiale erkenning vir hul bydrae tot die beskerming van 'n kwynende diersoort.

Elders in die Transvaal raak steeds meer grondeienaars bewus van die noodsaaklikheid om seldsame en bedreigde dier- en plantsoorte te beskerm en ons het die volste vertroue dat steeds meer en groter gesamentlike bewaringsprojekte in die toekoms van stapel gestuur sal kan word ter beveiliging van een van ons land se grootste bates . . . ons mooi dog bedreigde natuurerfenis.

rof. J.D. Skinner

ogdiernavorsingsinstituut,
erkunde Departement, Universiteit van Pretoria

Jaggewoontes van die bruinhiëna

e bruinhiëna of strandwolf, *Hyaena*
unnea, het die tipiese voorkoms van 'n
ëna, tewete, 'n hoë voor- en lae agterlyf,
eë kop, kort gesig, diep en effense ronde
orkop, gepunte ore, dik nek en 'n kort
ert. Die haarbedekking is grof, welig en
die rug tot 25 cm lank. Die algemene
eur is donkerbruin met 'n ligter bruin
aag om die nek en oor die skouers. Ken-
erkende donker strepe kom op die bene
or en die voorpote is groot en goed ont-
kkel om mee te grawe.

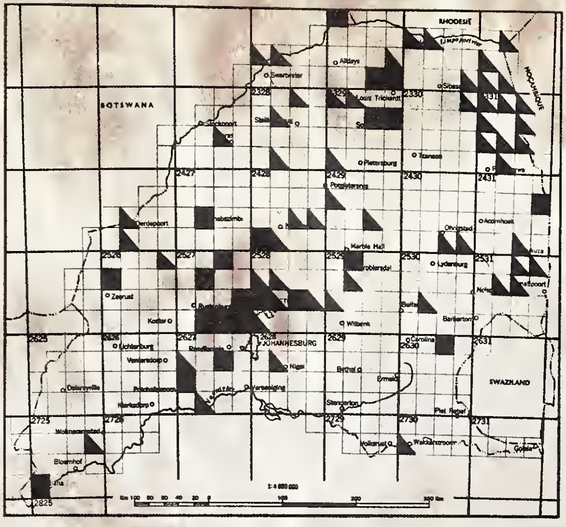
Daar bestaan in 'n groot mate 'n wan-
egrip oor dié diersoort se ekologiese be-
kenis. Die afgelope paar jaar is daar dus
avorsing gedoen om, onder andere, die
l van die bruinhiëna as roofdier van
aasvee te bepaal. Die maniere waarop
erskillende roofdiersoorte hul prooi
oodmaak, is ook spesiaal nagevors sodat
oere roofdiere, wat van hul vee mag aan-
al, hiervolgens kan uitken.

Hoewel die bruinhiëna as een van die
eldsaamste roofdiersoorte in Afrika beskou word, kom dié unieke diere nog wydverspreid in die Transvaal voor. Die bruinhiëna is egter oorwegend naglewend en word dus selde gesien. Bruinhiënas is onlangs doodgemaak in gebiede wat so ver van mekaar verwyder is soos Machadodorp, Wakkerstroom, Johannesburg, Krugersdorp, Pretoria, Hekpoort, Wolmaransstad, Potgietersrus en Bandolierkop.

Bruinhiënas word, weens hul byna skrikwekkende voorkoms, dikwels verkeerdelik vir roofjagters aangesien en doodgemaak. Dit gebeur veral wanneer die bruinhiëna aan karkasse van plaasdiere vreet wat aan ander oorsake dood is. Dié diersoort se voortbestaan hang grootliks daarvan af of boere dit sal aanvaar dat die bruinhiëna byna uitsluitlik 'n aasdier is wat baie selde, indien ooit, op vee jag maak.

'n Bruinhiëna wat gereeld uit vullisblikke in die omgewing van die Wonderboomlughawe geaas het, is onlangs doodgeskiet. Selfs in die voorstede van Johannesburg en Krugersdorp moes van hierdie aasdiere onlangs met hul lewens boet. Dit wil dus voorkom asof die bruinhiëna hom goed by die beskawing kan aanpas, mits hy 'n redelike kans tot bestaan gegun word.

Verwarring aangaande die gedrag van die bruinhiëna ontstaan grootliks vanweë dié dier se noue verwantskap met die gevlekte hiëna, *Crocuta crocuta*. Dié twee hiënasoorte is baie verskillend, alhoewel aas 'n belangrike deel van albei se dieët uitmaak. Die volwasse manlike en vroulike bruinhiëna het respektiewelik 'n gemiddelde massa van 43,9 en 40,9 kg in vergelyking met 56,2 en 61,1 kg by die gevlekte hiëna. Dit is interessant om daarop te let dat die wyfie gevlekte hiëna groter as die mannetjie is, oor 'n heelwat swaarder skedel en groter kake beskik en gewoonlik die dominante figuur in hiënagroepe verteenwoordig. Bruinhiënas vorm nie groepe nie, maar is enkellewend of kom



Verspreiding van die bruinhiëna in die Transvaal die afgelope dekade.

hoogstens in pare voor, behalwe wanneer daar kleintjies is.

Die gewoonte van gevlekte hiënas om, soos vir die eerste keer deur prof. Eloff beskryf, in groepe te beweeg, hou besliste jagvoordele in. Selfs grootwild soos sebras en wildebeeste word soms aangeval. Wanneer hulle eers geleer het om mak vee te jag, hou hulle gewoonlik daarmee vol. Gevlekte hiënas val hul prooi op 'n kenmerkende wyse aan. Die stert word gewoonlik afgebyt en die sye en uier verskeur.

Die bruinhiëna is meer van 'n aasvreter en slegs by uitsondering 'n suksesvolle jagter. Navorsing in die Kalahari deur mnr. Gus Mills dui, byvoorbeeld, daarop dat slegs sowat ses persent van die bruinhiëna se pogings om 'n prooidier te vang met sukses bekroon word. My eie navorsing toon dat prooidiere van bruinhiënas byna sonder uitsondering minder as 15 kg weeg. Dit is diere so groot soos 'n duiker en selfs kleiner. By uitsondering mag hulle ook vir veeverliese verantwoordelik wees. In sulke gevalle word veral beeskalwers en skaaplammers gevang maar selfs dit gebeur baie uitsonderlik!

Geen gevalle is bekend waar 'n bruinhiëna sy prooi aan die keel doodgebyt het nie en dit wil voorkom asof hulle nie weet hoe om 'n dier maklik dood te maak nie. Hulle sal, byvoorbeeld, lammers enige plek byt hoewel hulle voorkeur gee aan die kop of romp. Bruinhiënas toon 'n voorliefde vir die harsings, ore en boude van hul prooidiere.

Die rooijakkals byt sy prooi gewoonlik aan die keel dood. Luiperds doen dit soms ook. Die katagtiges soos die luiperd en rooikat byt hul prooi egter meer gereeld agter die nek.

'n Aantal bruinhiënas is reeds gevang en na veiliger gebiede oorgeplaas. Dié hervestigingsprojek en my eie navorsing word finansieël deur die Transvaalse Afdeling Natuurbewaring gesteun, aan wie ek graag met dié skrywe my waardering wil betoon. Boere word vriendelik versoek om ook tot hierdie navorsingsprojek by te dra deur beskikbare inligting oor bruinhiënas aan my te verskaf.

Indien 'n enkele dier in 'n gebied skade mag aanrig, behoort die betrokke sondebok gevang en verwyder te word. Die gebruik van gif word ontmoedig omdat talle ander skadelose, en selfs nuttige roofdiere, onskuldig gedood mag word.

EIENAARDIGE BOERDERY

N. JACOBSEN
Senior Vakkundige Beampte, Seksie Herpetologie,
Transvaalse Afdeling Natuurbewaring

Foto: E. Young

Gedurende die paartyd in Augustus word Croco Farm se volwasse teeldiere in teeldamme met 'n natuurlike voorkoms geplaas. Die wyfies lê hul eiers in groot, spesiaal ontwerpte sandkaste wat vir hierdie doel in die teelkampe geplaas word.

◀

Die hongerige krokodille van Croco Farm wag hul donkievleisrantsoen gewoonlik mẹt groot opgewondenheid in.

▼

Mnr. J.G. Kuhlmann boer reeds die afgelope agt jaar, maar nie met beeste, skape of varke nie . . . met krokodille! En dit kwalik 25 kilometer vanaf die middestad van Pretoria.

Op sy plaas Croco Farm, in die omgewing van De Wildt, hou mnr. Kuhlmann etlike honderde krokodille aan. Die grootste is meer as vier meter lank. Aanvanklik het hy sy teeldiere uit gebiede, waar hulle vir mense en plaasvee gevaar mag inhou, verkry maar nou broei hy krokodileiers in spesiale broeikaste uit en maak hy die jong diere kunsmatig groot.

Mnr. Kuhlmann voer sy krokodille vis en donkievleis. Wilde krokodille se dieet bestaan oorwegend uit vis. Diere selfs so groot soos 'n volwasse sebra of buffel word soms ook deur krokodille gevang en verorber.

Hierdie byna prehistoriese monsters se voortbestaan word allerweë bedreig. Waterlikkewane vreet baie krokodileiers op en kwalik een persent van die krokodilbabas wat in die natuur uitbroei, bereik die ouderdom van een jaar. Daarenteen broei sowat 99 persent van die krokodileiers, na 'n broeityd van sowat drie maande, in mnr. Kuhlmann se broeikaste uit en vrek baie min jong krokodilletjies op sy plaas. Die diere word goed versorg en die jong krokodille groei byna twee keer so vinnig as hul maats in die natuur.

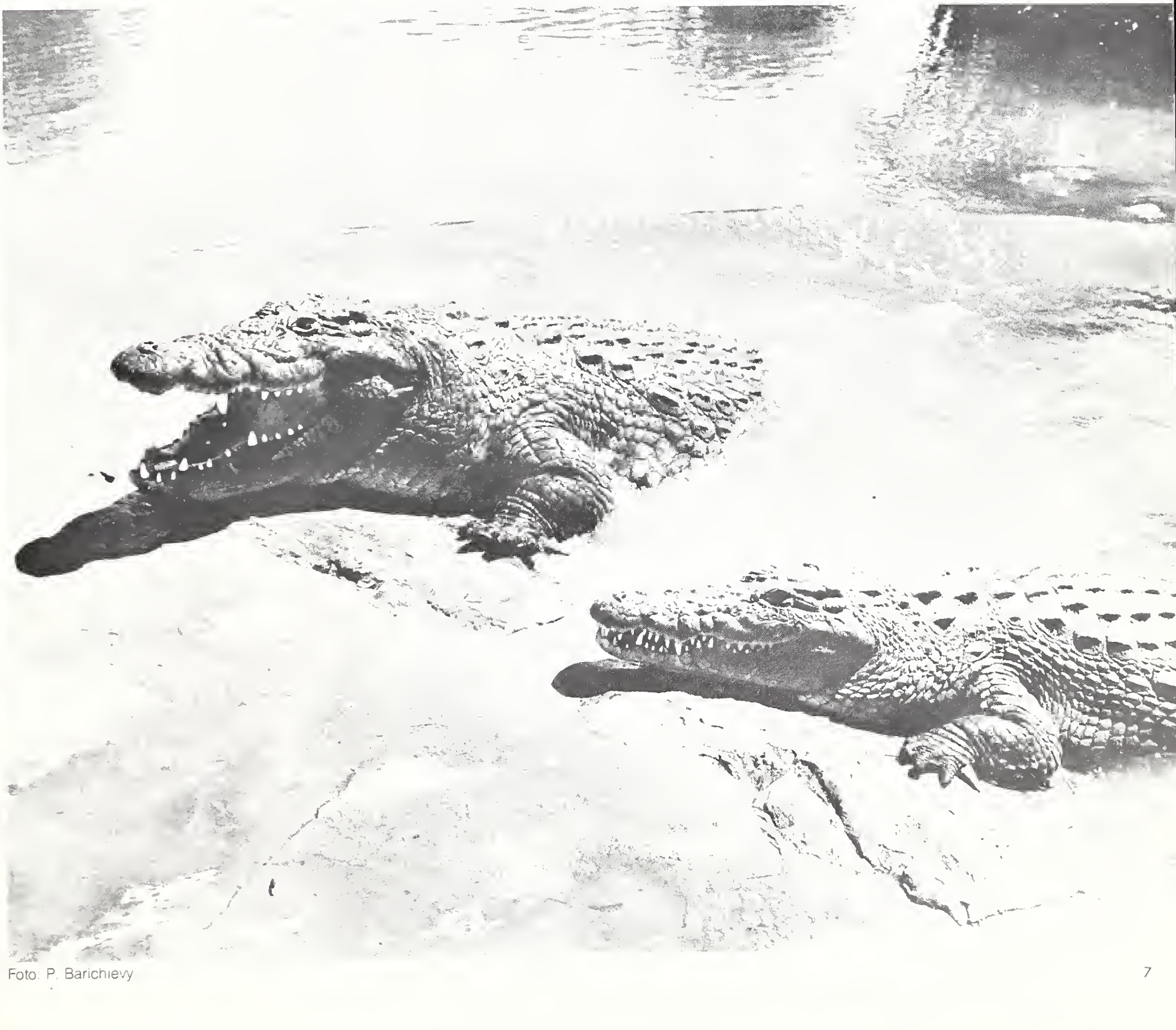


Foto: P. Barichievy

r. Kuhlmann met een van sy broeikasbabas. ▶

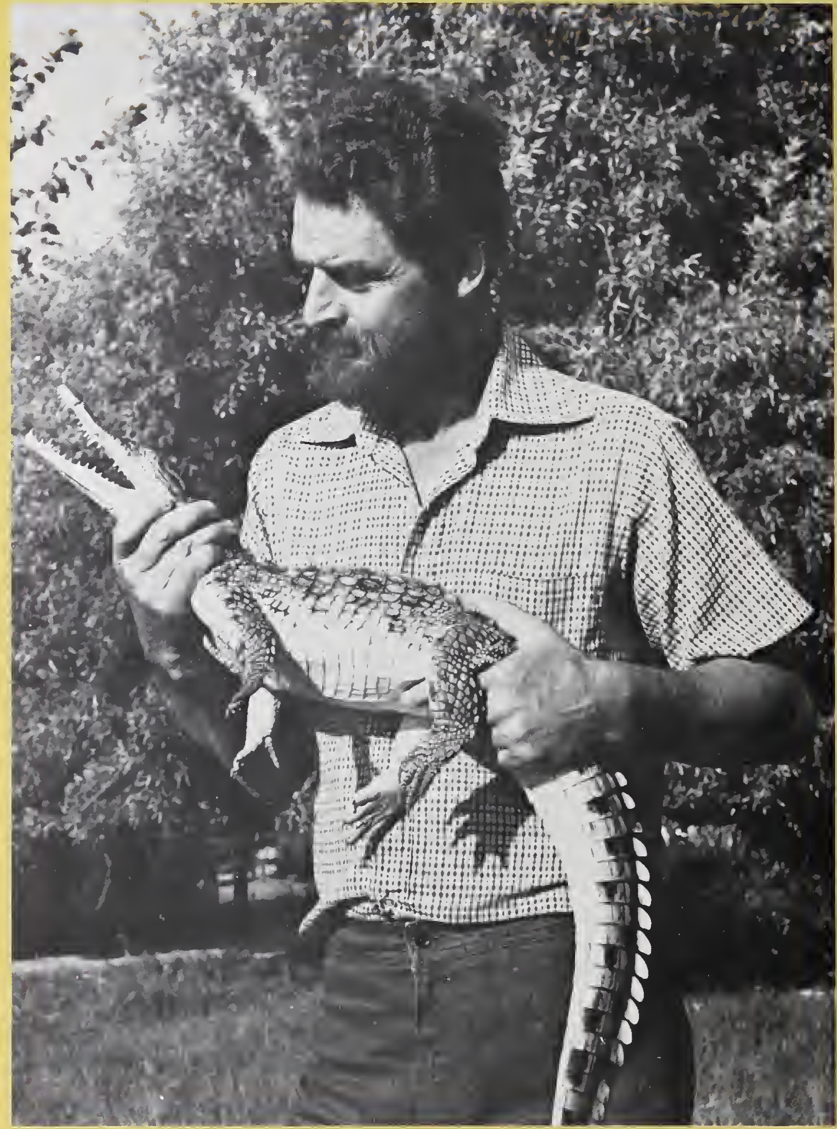


Foto: E. Young

e jong krokodille word in spesiale
mperatuurbeheerde kamers grootgemaak. ▼

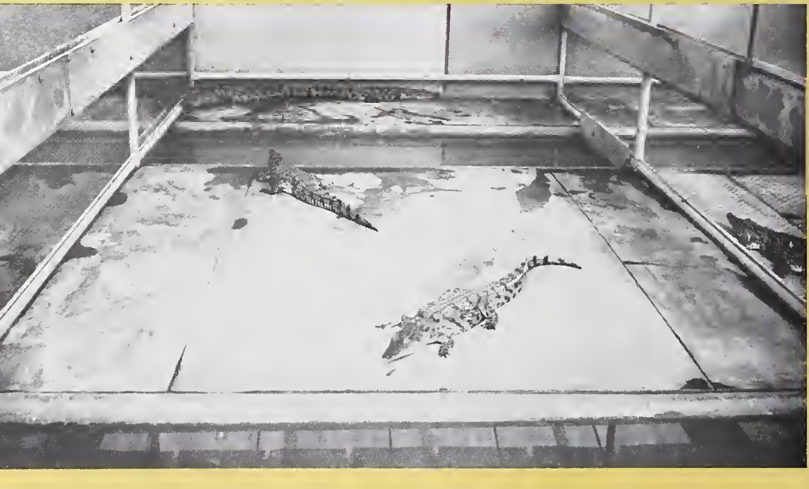
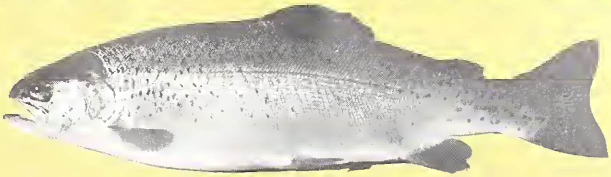


Foto: P. Barichievy

Daar word spesiale navorsing gedoen op Croco Farm se krokodille se eet- en broeigewoontes en sodra die jong diere die ouderdom van vyf jaar bereik, word hulle deur mnr. Kuhlmann beskikbaar gestel om in natuurlike strome in nasionale parke en natuurreservate vrygelaat te word . . . 'n aanprysenswaardige poging deur 'n private natuurliefhebber om een van ons lewende fossiele van uitwissing te red!

Nuwe visteelstasie vir die Transvaal



F. Meyer
Senior Vakkundige Beampte
Vissery-Instituut, Lydenburg

Toe geesdriftige forelhengelaars en visboere se aanvraag na meer teelvis die produksievermoë van bestaande visteelstasies begin oortref het, het die Transvaalse Afdeling Natuurbewaring se visserydeskundiges onverwyld aan die beplanning van 'n nuwe forelteelstasie begin werk.

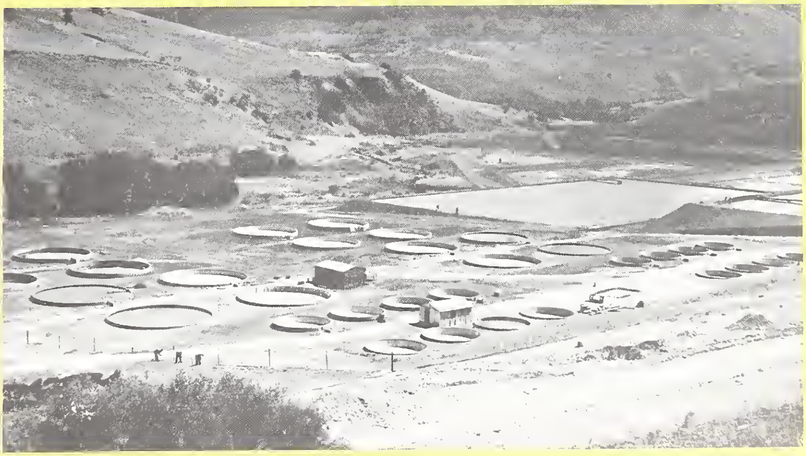
Gedeeltes van twee aangrensende plase, saam sowat 1 620 hektaar (1 896 morg) groot, is 10 kilometer oos van Lydenburg vir die oprigting van die nuwe teelstasie aangekoop. Oom Gert Olivier, een van die Afdeling se personeellede wat ook die ander provinsiale visteelstasies in die Transvaal gebou het en onlangs afgetree het, was vir die oprigting van die nuwe teelstasie verantwoordelik. Nege groot gronddamme van sowat een hektaar elk en 32 ronde sementdamme is gebou en teen die einde van 1975 is die eerste forelle in die nuwe damme geplaas. Gedurende die eerste broeiseisoen was sowat 1 500 forelmannetjies en meer as 3 000 wyfies reeds in produksie.

Die nuwe forelteelstasie, met die naam van De Kuilen, is in 'n pragtige deel van die Drakensberg geleë. Talle wildsbokke soos vaal- en rooiribbokke, bosbokke, oorbietjies, duikers, steenbokke en klipspringers kom in die nuwe natuurreservaat om die visteelstasie voor. Seldsame veldblomsoorte, loodregte roesbruin kranse wat hoog teen die blou lug uittoring en pragtige watervalle dra by tot die asemrowende natuurskoon van dié nuwe juweel waarop die Afdeling Natuurbewaring met reg trots kan wees.

Oom Gert Olivier by die uitkeerwal van die nuwe visteelstasie wat onder sy toesig gebou is.
Foto: W. Massyn
▶

▲
Duikers en ander kleinwild kom in die nuwe reservaat om die De Kuilen-teelstasie voor.
Foto: W. Massyn

▶
'n Deel van die nuwe visteelstasie. Sowat een miljoen foreleiers is reeds gedurende die eerste jaar van sy bestaan by dié visteelstasie geproduseer.
Foto: B. Koch



DIE GROOTBEKGEELVIS—

'n hengelvis van formaat

Dr. P.F.S. MULDER

Hoofvakkundige Beampte, Navorsingseksie,
Transvaalse Afdeling Natuurbewaring, Pretoria

Foto: N. Zambatis

Die grootbekgeelvis, *Barbus kimberleyensis*, is sekerlik die mees bekende van die vyf geelvissoorte wat in die Transvaal voorkom. Sy gewildheid as hengelvis is aan die besondere grootte wat bereik kan word, asook aan sy uitmuntende vegtersvermoë toe te skryf.

Die grootbekgeelvis is 'n roofvis wat hoofsaaklik op ander vis jag maak. Krappe en varswaterkrewels word ook gevreet. Dié vissoort is beperk tot die Oranje- en Vaalriverstelsel en verteenwoordig tans sowat vyf persent van die totale hengelbevolking in die Vaalrivier. Hoewel dié syfer onrusbarend laag mag klink, moet dit in gedagte gehou word dat roofdiere altyd in die natuur in kleiner getalle as hul prooisoorte voorkom.

Daar is wel faktore wat die voortbestaan van die grootbekgeelvis in die Vaalrivier nadelig beïnvloed. Dit sluit die uitermatige vertroebeling van die water deur erosie in dié rivier se opvanggebiede in, asook die oprigting van keerwalle en damme wat die migrasie van vis na geskikte broeigebiede beperk. Mannetjies van dié vissoort is voorts eers na ses jaar geslagsryp, terwyl die wyfies nie broei voordat hulle sowat agt jaar oud is nie. Baie jong visse word dus deur hengelaars gevang voordat hulle geslagsrypheid bereik het.

Om genoemde redes en omdat hierdie besondere vissoort reeds uit dele van hul vroeëre verspreidingsgebiede verdwyn het, het die Transvaalse Afdeling Natuurbewaring besluit om die grootbekgeelvis kunsmatig te probeer teel.

Tans word daar nog heelwat tegniese probleme met hierdie projek ondervind. Dit word egter voorsien dat die grootbekgeelvis binne afsienbare tyd vir vrylating in strome beskikbaar gestel sal kan word. Meer hengelaars sal dan die voorreg kan geniet om met een van die werklike groottes slaags te raak.

Grootbekgeelvisse word in die Vaalrivier vir navorsing en teeldoeleindes met nette gevang. ◀

Kampioenhengelaar, mnr. M.C. Barnard, met sy Suid-Afrikaanse rekordgrootte grootbekgeelvis. Dié vis, wat 21,4 kilogram geweeg het, is gedurende 1972 in Vaaldam gevang. ▼

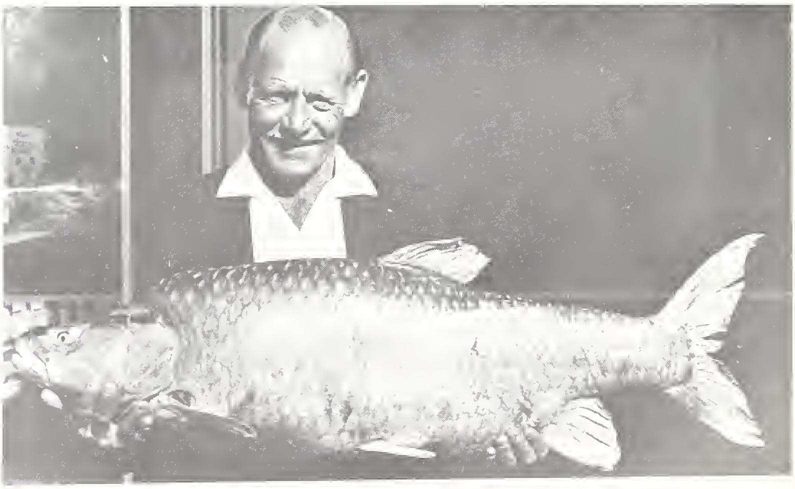


Foto: K. van Vuuren

avorsing p die eldsame ransaas- oël

Bergklimmers waag hul lewens om aasvoëlneste vir navorsingsdoeleindes op te spoor.

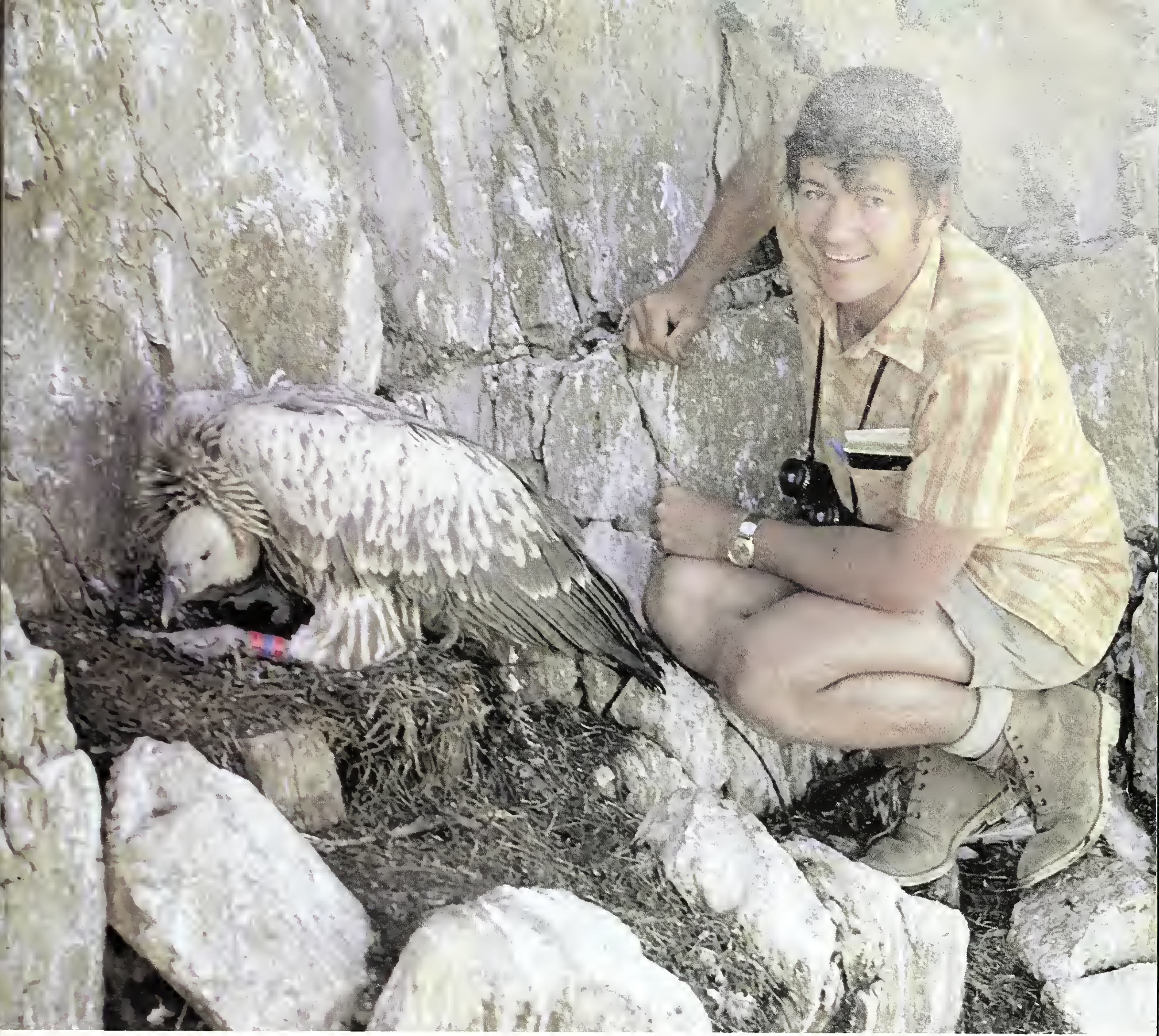
Foto: C. Peeters

948 is die eerste Kransaasvoël, *Gyps otheres,* in die Transvaal met 'n ligte ommerde metaalring aan sy been ge- k. Sedertdien is daar, tot aan die einde 1972, sowat 3 500 kuikens in ver- ende aasvoëlkolonies in Suidelike Af- van merkringe voorsien. Aanvanklik is slegs gepoog om, deur aasvoëls vir enningsdoeleindes te merk, uit te vind ver dié voëls rondbeweeg en hoe oud e kan word. So is, byvoorbeeld, vasge- dat 'n aasvoël, wat as kuiken naby oria gemerk is, sowat 1 200 km ver eeg het tot in die omgewing van die hapan in Suidwes-Afrika, waar dit d aangetref is. Vanselfsprekend kon voël voor sy dood oor 'n veel groter ed rondgeswerf het! 'n Ander aasvoël 4 jaar nadat dit as 'n kuiken gemerk is, dood gevind. Weer eens was dit onbekend wat die gemerkte voël gedurende al dié jare gedoen het.

In 1973 is die navorsingsprojek aansienlik uitgebrei sodat daar ook meer van die aasvoël se lewenswyse geleer kon word. Dr. John Ledger (S.A. Instituut vir Mediese Navorsing) en mnr. Peter Mundy (Universiteit van Rhodesië), wat dié navorsingsprojek toe oorgeneem het, maak van plastiese merkringe gebruik. Volgens die kleursamestelling van dié ringe kan individuele aasvoëls nou in die veld uitgeken en bestudeer word. Die wye verspreidingsgebied van die gemerkte voëls bemoeilik die werk van die twee navorsers aansienlik en hulle verwelkom enige moontlike hulp en inligting deur belangstellende lede van die publiek.

Hierdie aasvoëlsoort kom uitsluitlik in Suidelike Afrika voor en word in die Suid-Afrikaanse Rooi Data Boek as 'n kwynende en bedreigde soort geklassifiseer. Die Bedreigde Wildsoorte Trust en die Suid-Afrikaanse Voëlkundige Vereniging verleen nou ook finansiële hulp vir die Kransaasvoëlprojek.

Die Kransaasvoël lê hoogstens een eier per broeipaar per jaar en slegs die helfte van alle eiers broei uit en bereik die veerkuikenstadium. Hiervan vrek 'n aansienlike getal gedurende die eerste lewensjaar sodat net sowat die helfte van die voëls wat die nes verlaat, die teelbare ouderdom van ses jaar bereik. 'n Teelpaar aasvoëls moet dus, nadat hulle geslagsryp geword het, elke jaar vir minstens agt jaar lank broei



Dr. John Ledger by 'n aasvoëlnes op 'n smal rotslys in die Magaliesberg.

Foto: P. Mundy

(waarna hulself minstens 14 jaar oud sal wees) voordat hulle hulself kan vervang met twee ander voëls om 'n stabiele aasvoëlbevolking te verseker. Dr. Ledger en mnr. Mundy betwyfel die moontlikheid dat aasvoëls algemeen die genoemde ouderdom bereik.

Weens 'n gebrek aan kalsium in die neskuikens se dieet kom vrektes onder hulle voor. In wildernisgebiede voer die aasvoëls hul kuikens met stukkies gebreekte been. Dié beensplinters word gewoonlik deur hiënas by karkasse agtergelaat. In boerderygebiede is hiënas nou grootliks uitgeroei en, in plaas van beensplinters, versamel die volwasse aasvoëls groter en oneetbare stukke been en selfs stukkies porselein en glas. Vanselfsprekend kan die aasvoëlkuikens nie voldoende kalsium uit so 'n dieet verkry nie. Gevolglik verswak die jong voëls se skelette en kom beenbreuke algemeen voor.

Jong aasvoëls is tot die volgende teelseisoen (tot ongeveer vyf maande) gedeeltelik afhanklik van hul ouers vir kos. Daarna vlieg hulle ver van die broeikolonies, wat altyd in hoë bergklowe geleë is, af weg om 'n selfstandige bestaan te probeer voer. Die volwasse voëls bly in die omgewing van die broeikolonies agter. Hoewel kos gewoonlik geredelik beskikbaar is, dra ander faktore in ontwikkelde gebiede verder by tot vrektes van die jong nesverlatende aasvoëls. Sommige voëls vlieg hulself teen drade te pletter, terwyl ander doodgeskok word wanneer hulle op hoëspanningkragdrade gaan sit.

Dr. Ledger en mnr. Mundy beskik reeds oor belangrike inligting van meer as 60 Kransaasvoëlkolonies. Hiervolgens is dit duidelik dat die Transvaal die belangrikste tuiste vir dié bedreigde voëlsoort bied. In dié provinsie kom daar, onder andere, drie groot kolonies voor, elk met sowat 250 broeipare, asook etlike kleiner kolonies. Dit is voor die handliggend dat die sleutel tot die suksesvolle voortbestaan van die Kransaasvoël in die Transvaal geleë is en die twee ambisieuse jong navorsers word alle sukses toegewens met hul aanprysenswaardige poging om inligting te versamel wat daartoe mag bydra dat hierdie besondere voëlsoort van uitsterwing gered word.

◀ *Die Swart Ooievaar is een van die seldsaamste voëlsoorte wat in Suid-Afrika broei.*
Foto: W. Tarboton

DIE SWART OOIEVAAR - Een van die seldsaamste Suid-Afrikaanse voëlsoorte

Warwick Tarboton

Senior Vakkundige Beampte,
Transvaalse Afdeling Natuurbewaring, Nylsvley-natuurreservaat

Twee swart-en-witkleurige ooievaars, wat maklik met mekaar verwar kan word, kom in Suid-Afrika voor. Die mees algemene soort, die Swart Sprinkaanvoël, *Ciconia abdimii,* broei nie in Suid-Afrika nie, maar migreer gedurende die somermaande in groot getalle vanaf Wes-Afrika na die Republiek. Die baie meer seldsame Swart Ooievaar, *Ciconia nigra*, wat in hierdie artikel beskryf word, woon en broei in Suid-Afrika. Op die oog af lyk dié twee voëlsoorte baie na mekaar maar hulle gewoontes verskil aansienlik. Die meer volop Swart Sprinkaanvoël kom gewoonlik in groot swerms voor en word veral in bewerkte lande aangetref. Soms volg hulle trekkers wat ploeg. Partykeer loop hulle weer sistematies heen en weer deur lusernlande, op soek na insekte. Daarenteen word die Swart Ooievaar veral in vleie en waterryke gebiede aangetref. Hulle leef veral op klein vissies en amfibieë. Dié voëlsoort is oorwegend alleenlopend, hoewel hulle soms in groepe saam slaap.

Die Swart Ooievaar is een van die seldsaamste voëlsoorte wat in Suid-Afrika broei. In 1966 het die Kaapse Departement van Natuurbewaring met 'n landwye opname bevind dat daar slegs 14 pare voëls in Suid-Afrika en nog drie in Lesotho broei. Die meeste van dié broeipare het in die Drakensberg en omliggende ranteveld voorgekom. Tydens dié opname is vasgestel dat daar slegs enkele voëls in die Transvaal voorgekom het, maar dat hulle toe glad nie in dié provinsie gebroei het nie. Onlangs het dit aan die lig gekom dat ten minste 15 en moontlik selfs twee keer soveel pare Swart Ooievaars in die Transvaal broei. Die broeiplekke kom veral in die bergagtige dele van die provinsie, soos in die Waterberg, Magaliesberg en Soutpansberg voor. Die onlangse opeenvolgende goeie reënjare kon tot dié toenemende broei-aktiwiteite aanleiding gegee het; dit wil sê as dié unieke voëls nie lank reeds in die Transvaal gebroei het, maar hul broeiplekke bloot net nie vroeër ontdek was nie.

Swart Ooievaars kom vervolgens in klein getalle voor in Rhodesië, Zambië (waar hulle ook broei) en verder noord deur Oos en Noordoos-Afrika tot in Europa en Asië. Hul getalle het die afgelope tyd in Europa geleidelik afgeneem, terwyl min oor dié voëls in Asië bekend is. Gedurende die winter migreer die Europese voëls suidwaarts en party van hulle mag selfs tot by die ewenaar vorder. Hoewel dit voorheen geglo was dat die Europese Swart Ooievaars tot in Suid-Afrika migreer, kon geen bevestigende bewyse tot dusver vir dié vermoede gevind word nie; in die somer vind hier geen waarneembare toename in getalle plaas nie en verder is hier nog geen voëls opgemerk wat in Europa gemerk is nie.

Waterdiertjies word op dieselfde manier as deur 'n reier opgespoor en gevang. Daar word stadig deur vlak water geloop en bewegende prooidiertjies word blitsvinnig opgepik. Wanneer die voëls broei word tot 30 voedseldeeltjies in die krop opgegaar voordat daarmee na die nes gevlieg word. 'n Geval is bekend waar kos vir sover as agt kilometer na die nes aangedra is. Deur die jong voëls in die nes met relatief groter hoeveelhede kos te voer, vermy die groot voëls 'n onnodige heen en weer gevlieg tussen die nes en hul voerplekke en is dit gevolglik vir hulle moontlik om oor groter afstande na kos te soek.

Alle neste wat nog in Suidelike Afrika ontdek is, het op nou rotslyste teen kranse voorgekom. In Europa broei die voëls soms in bome. In alle gevalle word die neste van stokke gemaak en is die platvormagtige struktuur in die middel skottelvormig uitgehol en met gras uitgelê. Normaalweg word drie eiers gelê wat, volgens inligting uit Europa, na 35-46 dae uitbroei. In skrille kontras met die volwassenes, is die kleur van die kuikens se donsvere spierwit. Donkerder vere verdring geleidelik die wit donsvere en wanneer die jong voëls die nes na sowat 9-10 weke verlaat, het hulle 'n dowwe swart kleur. Solank die jong voëls in die nes bly, behou hul snawels die kenmerkende heldergeel kleur. Nadat hulle die nes die eerste keer verlaat, kom hulle vir 'n tyd lank nog gereeld terug om deur hul ouers gevoer te word.

Dit bly nog steeds 'n raaisel waarom die Swart Ooievaar se getalle in Suid-Afrika so beperk is en bly. Daar bestaan voldoende broeiplekke vir veel meer voëls en kos is volop! Moontlik is daar nie voldoende voedsel binne bereik van geskikte nesmaakplekke beskikbaar nie? Tans word daar nog net oor verskillende moontlike bydraende faktore gespekuleer en veel meer navorsingswerk sal in die toekoms op dié interessante voëlsoort gedoen moet word. Alhoewel die voortbestaan van die Swart Ooievaar nog nie allerweë in Suid-Afrika as bedreig beskou word nie, bestaan daar geen twyfel oor die seldsaamheid van dié voëlsoort in die Republiek nie en word die voëls in die Transvaal, soos ook in die ander provinsies, ten strengste beskerm.

Besondere plantsoort ontdek en van uitwissing gered

M.J. VAN BILJON

Beheersuperintendent, Hartbeeshoek Provinsiale Kwekery,
Transvaalse Afdeling Natuurbewaring

rende 1964 is die ontdekking van 'n
seldsame broodboomsoort aange-
en dr. Dyer, 'n bekende plant-
ge, het dié besondere ontdekking
dr. van Hoepen soos volg beskryf:
finding of this species is one of the
botanical discoveries in South Africa
cent times".

e nuwe broodboomsoort is onverwags
e plaas "Onverwacht" by die same-
ng van die Steelpoort- en Olifants-
e ontdek en is baie gepas
phalartos inopinus (inopinus = on-
gs) gedoop.

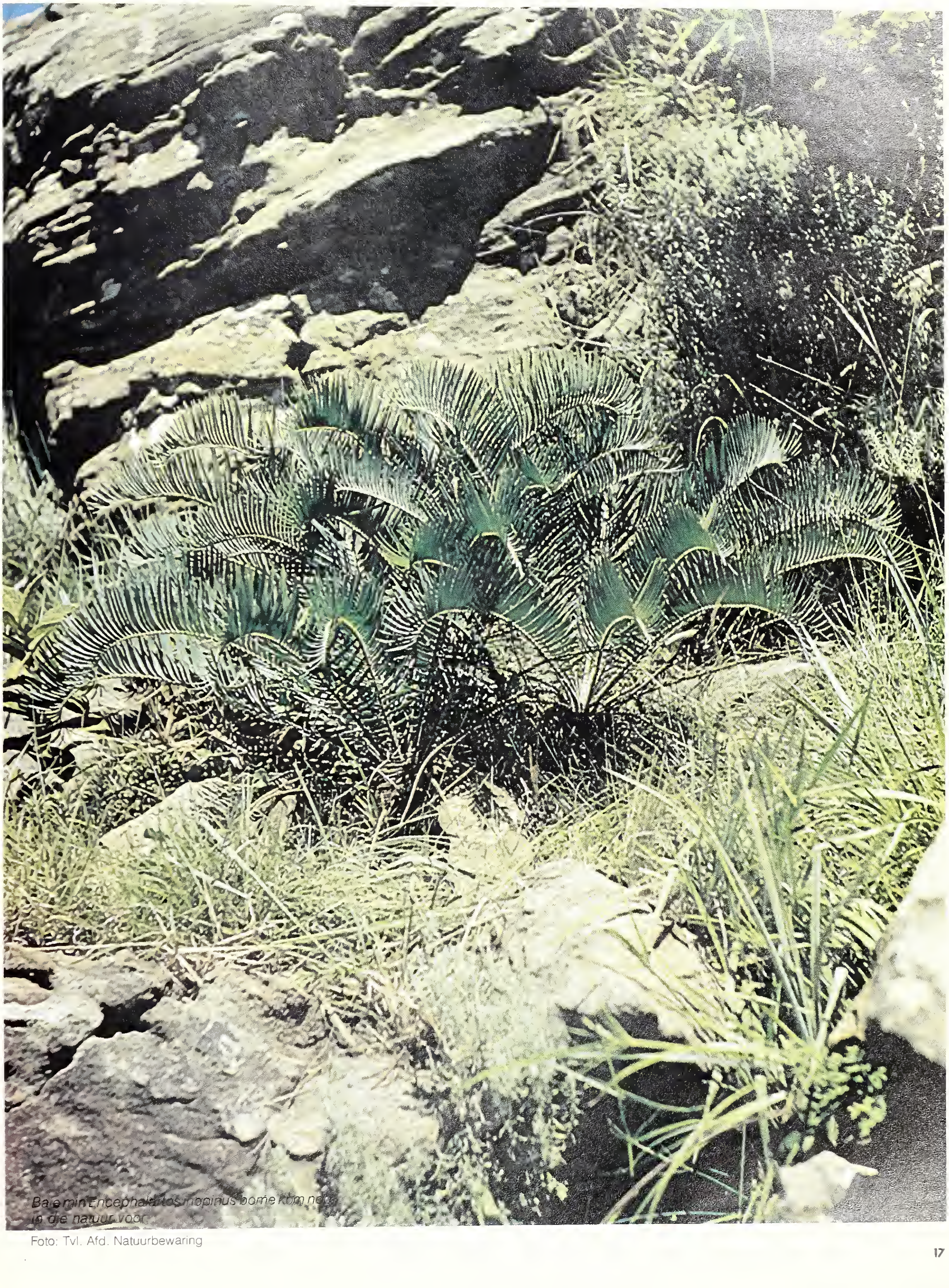
wettige plantversamelaars het gou
e gebied toegesak om van die besondere boomsoort vir hul private versamelings te probeer bekom. Die gevaar het ontstaan dat *E. inopinus* uit die natuur sou verdwyn. Op 'n stadium was navorsers van net een vroulike plant in die wêreld bewus. Uitwissing het dié pas ontdekte en uiters seldsame plantsoort dus in die gesig gestaar. Daadwerklike optrede deur die Afdeling Natuurbewaring het dié dreigende gevaar egter net betyds afgeweer.

'n Paar bome wat van onwettige eienaars teruggeneem is, het die geleentheid gebied om dié besondere boomsoort beter te bestudeer en selfs kunsmatig te kweek. Stuifmeel wat van 'n manlike plant versamel is, is gebruik om 'n vroulike boom kunsmatig te bevrug. Die resultate was bo verwagting gunstig. Sowat 208 sade van diè seldsame boomsoort het ontkiem en die jong bome word tans by die Provinsiale Kwekery te Hartbeeshoek vertroetel en grootgemaak.

Die Transvaalse Afdeling Natuurbewaring stel dit homself ten doel om seldsame en bedreigde plantsoorte te kweek en daaropvolgend in geskikte natuurlike gebiede te hervestig. Vir plantkundiges en talle plantliefhebbers sal die suksesvolle hervestiging van *E. inopinus* sekerlik 'n besondere mylpaal in die geskiedenis van die bewaring van seldsame plantsoorte verteenwoordig.

Kunsmatige bevrugting van 'n wyfie-broodboom by die Hartbeeshoek Provinsiale Kwekery.

Foto: E. Young



Baie min Encephalartos inopinus bome kom nog in die natuur voor.

Foto: Tvl. Afd. Natuurbewaring

'n blouwildebeesparasiet as entstof teen olifantvelsiekte van beeste ingespan

Dr R.D. BIGALKE

Adjunk-Direkteur, Veeartsenykundige
Navorsingsinstituut, Onderstepoort

asiete uit blouwildebeeste word op
derstepoort kunsmatig gekweek om as
stof teen olifantvelsiekte in beeste te dien.

: Onderstepoort — Navorsingsinstituut.

antvelsiekte van beeste is 'n bekende
bleem op beesplase in die Transvaalse
Natalse bosveld. Soos die naam van die
kte aandui, word die vel van besmette
este sodanig aangetas dat dit weens
arverlies, asook verdikking en oor-
tige plooiing van die vel, na die vel van 'n
ant lyk. Aangetaste beeste toon voorts
koors, verminderde eetlus en vermaer-
en mag soms vrek. Bulle kan selfs per-
nent steriel raak.

ot dusver is geen bevredigende ge-
smiddel vir die behandeling van siek
re gevind nie en dit beklemtoon die be-
grikheid van die voorkoming van die
kte. Die onlangse vrystelling deur
derstepoort, van 'n entstof teen olifant-
siekte, het dus vir beesboere in die
smette gebiede aansienlike verligting
oring.

Die ontdekking van die entstof het voortgevloei uit navorsingswerk wat deur Onderstepoort en die Afdeling Veeartsenydiens in die Krugerwildtuin onderneem is. Die navorsers het vasgestel dat parasiete in blouwildebeeste voorkom wat mikroskopies en op die oog af ooreenkom met dié wat olifantvelsiekte in beeste veroorsaak. Die besmette wildebeeste het egter geen tekens van siekte getoon nie.

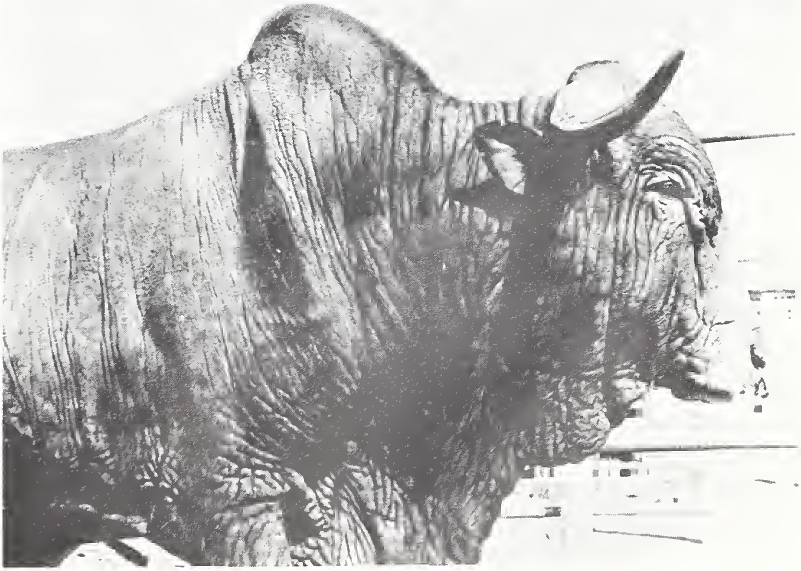
'n Besondere bevinding met proewe, wat daarna deur 'n span navorsers op Onderstepoort onderneem is, was dat die wildparasiet geen gevaar vir beeste inhou nie, maar dat beeste wat daarmee ingespuit is, immuun was teen olifantvelsiekte. Die blouwildebeesparasiet was dus pasklaar om as entstof teen olifantvelsiekte gebruik te word. Die Onderstepoortse navorsers het ook daarin geslaag om die parasiet kunsmatig in die laboratorium in weefselkultuur te kweek. Sodoende kon die groot getalle parasiete, wat vir entstofbereiding nodig sou wees, geproduseer word.

Uitgebreide laboratorium- en veldproewe wat onderneem is, voordat die entstof vrygestel is, het getoon dat die entstof 'n baie bevredigende immuniteit verwek wat ten minste drie jaar lank duur.

Die rol wat wild in die oordraging van veesiektes kan speel word dikwels sterk beklemtoon. Hier is egter 'n goeie voorbeeld van hoe wilde diere hul deel kan bydra om siektes in ons plaasdiere te bestry. Die moontlikheid is glad nie uitgesluit dat verdere, soortgelyke veeartsenykundige navorsing tot dergelike belangrike ontdekkings kan lei nie.

▲'n Blouwildebeesbul sonder velletsels, maar moontlik besmet met 'n parasiet wat olifantvelsiekte in beeste kan help voorkom.

Foto: P. Barichievy



'n Afrikanerbeesbul met kenmerkende letsels van olifantvelsiekte. ▶

Foto: Onderstepoort — Navorsingsinstituut

lej. J. A. DEEKS

rligtingseksie,
nsvaalse Afdeling Natuurbewaring, Pretoria

NATUURBEWARINGS-VOORLIGTING

id-Afrikaners kan met reg trots wees op
e natuurskoon van ons pragtige land. Die
ke verskeidenheid aan plante en diere-
ve word egter toenemend deur land-
ukundige en industriële ontwikkeling
dreig. Die Transvaalse Afdeling Natuur-
waring besef die erns daarvan dat die
ortbestaan van ons besondere natuur-
enis alleenlik verseker kan word deur
e goeie samewerking en ondersteuning
n die publiek en veral grondeienaars
et seldsame plant- of diersoorte op hul
ase.

In 'n poging om 'n groter **bewustheid** vir
e skoonheid van die natuur en 'n groter
voel van **betrokkenheid** by 'n landwye
waringspoging by die algemene pu-
ek te kweek, het die Afdeling Natuurbe-
aring dit goedgedink om die personeel
aktiwiteite van sy voorligtingseksie uit te
ei. Drie toepaslik opgeleide dames is vir
e doel aangestel. Dit sluit twee ge-
adueerdes in Kommunikasiekunde en 'n
erde met 'n diploma in Natuurbewaring

Die Afdeling se bewaringspoging is se-
ert die begin van 1976 in meer as 'n hon-
erd persberigte en artikels bekend
emaak. Daar is ook aan verskeie radio-
ogramme deelgeneem. Die natuur-
ewaringsboodskap is veral doeltreffend

deur televisie versprei en die S.A.U.K. kan in die besonder vir hul daadwerklike hulp met dié bewaringspoging geprys word.

Die eerste film het oor die beskerming van 'n lewende fosiel, die broodboom, gehandel. Meer as 25 000 boompies van dié seldsame plantgroep is die afgelope paar jaar by die Hartbeeshoek Provinsiale Kwekery gekweek en versorg. Die vang, vervoer en hervestiging van kameelperde het vir verdere opwinding in 'n tweede televisie-film gesorg. Met 'n veiling van wapens van wilddiewe, het die S.A.U.K. die unieke geleentheid benut om natuurbewaring op 'n ander wyse uit te beeld. Die hoogtepunt van hierdie kort reeks, wat tans voortgesit word met die maak van verskeie ander natuurbewaringsfilms, is sekerlik die suksesvolle hervestiging van jagluiperds in die Suikerbosrand-natuurreservaat.

Drie verdere televisiefilms, in die Bill Price-reeks, is gebaseer op die Afdeling Natuurbewaring se navorsingswerk oor seldsame diersoorte, soos die swartwitpens, bastergemsbok en basterhartbees, wat van uitsterwing gered moet word. 'n Nuwe vorm van boerdery, tewete wildboerdery, is ook suksesvol aan die publiek bekend gestel.

Die Afdeling se personeel was voorts ook direk betrokke by die verfilming van die Norma Foster-reeks, ,,Wildlife in Crisis" en een van dié films verleen spesiale aandag aan die vang en versorging van wilde diere. Belangrike deurbrake deur Suid-Afrikaanse veeartse met die behandeling van siek wilde diere is in hierdie en ander films in dieselfde reeks, aan sowat 280 miljoen televisie-kykers oor die hele wêreld bekend gestel. Mej. Foster het nie alleenlik daarin geslaag om die belangrikheid van Suid-Afrika se bydrae tot natuurbewaring onder die aandag van die wêreld te bring nie, maar sy het ook onlangs die internasionale toekenning, ,,Best Location Documentary Series" by geleentheid van die elfde Hollywoodfees vir Wêreldtelevisie, verwerf. Altesaam 29 lande het bydraes vir dié toekenning ingeskryf.

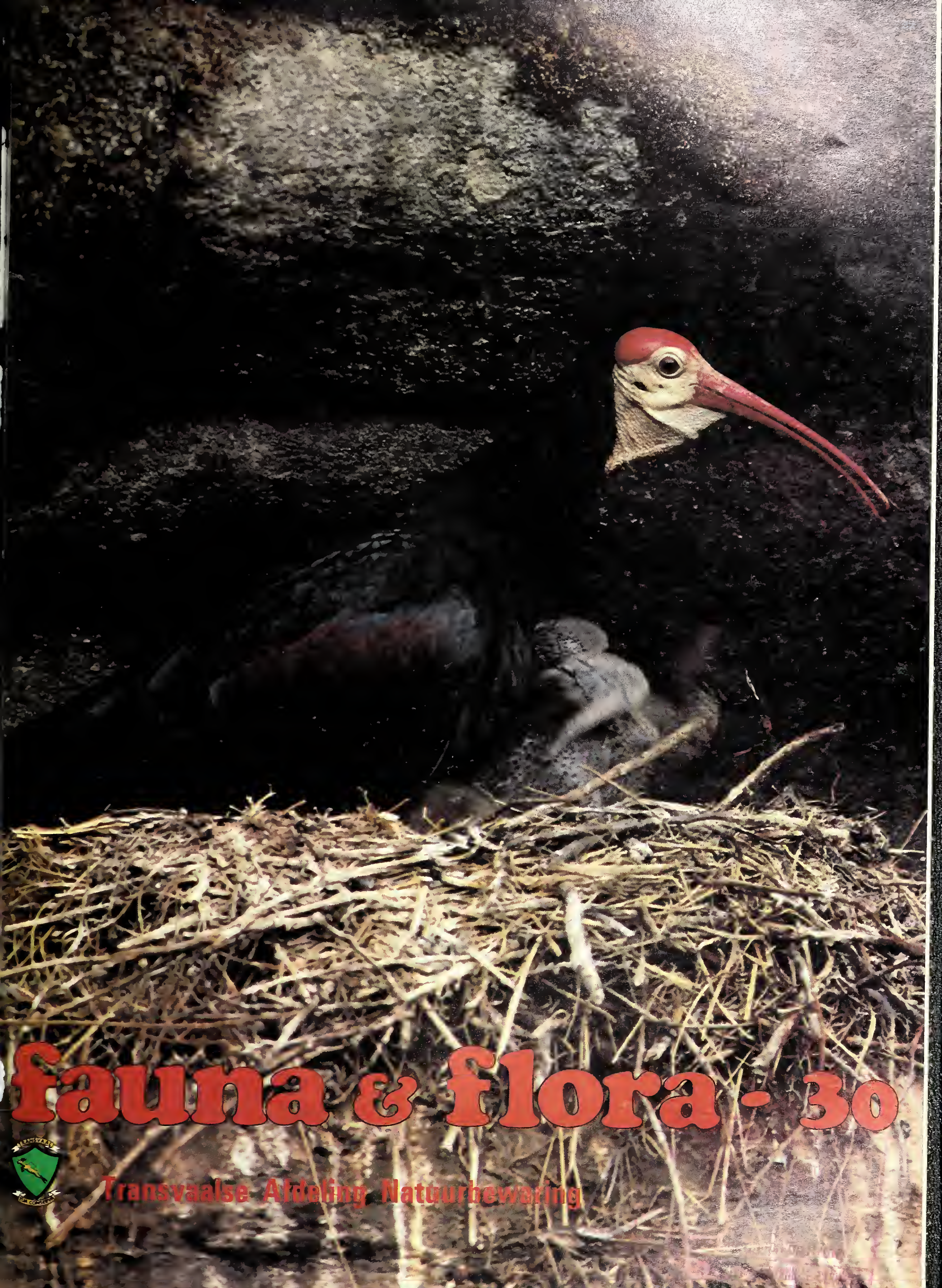
Die natuurbewaringsboodskap is voorts ook by verskillende groot tentoonstellings oorgedra. By die Internasionale Voedsel Expo is inligting oor wildboerdery en die benutting van plaaswild verskaf. Die bewaring van seldsame en bedreigde plant- en diersoorte was, daarenteen, die hooftema op die Pretoria Skou. Behalwe die uitstallings en die vertoning van natuurfilms, is duisende navrae beantwoord. Die publiek se toenemende bewaringsbewustheid, wat duidelik by dié skoue ondervind is, is voorwaar bemoedigend!

Op spesiale versoek en indien omstandighede dit toelaat, kan die voorligtingseksie van die Afdeling Natuurbewaring lesings aanbied en vir filmvertonings aan georganiseerde groepe sorg. Daar word ook jaarliks by verskeie van die grotere landbou en soortgelyke skoue uitstallings gehou. Verder word daar, onder andere, ook deur die maak en beskikbaarstelling van kleurskyfiereekse, natuurbewaringsvoorligting aan die weermag en jeugbewegings verskaf. Weens beperkte personeel en fondse kan daar ongelukkig nie aan alle versoeke voldoen word nie. Desondanks wil ons tog graag 'n vriendelike uitnodiging aan belangstellendes rig om betyds met die Direkteur van Natuurbewaring in verbinding te tree indien u van die Afdeling se voorligtingsdienste gebruik wil maak.

NUWE HOOP VIR DIE BASTERGEMSBOK

Nadat die bastergemsbokgetalle die afgelope drie jaar in die Percy Fyfe-natuurreservaat verdubbel het, kan teelkuddes van dié seldsame boksoort nou ook in die Nylsvley en Doorndraaidam provinsiale natuurreservate gevestig word.

Foto: P. Barichievy



fauna & flora - 30

Transvaalse Afdeling Natuurbewaring

FAUNA & FLORA

TRANSVAALSE AFDELING
NATUURBEWARING

NOMMER 30 JULIE 1977

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Voorbladfoto: Die Kalkoenibis
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Redaktrise: Dalene Delport
Uitleg: Dalene Delport

Fauna & Flora is 'n publikasie van die Transvaalse Afdeling Natuurbewaring en word van tyd tot tyd in Afrikaans en Engels gepubliseer vanaf die Hoofkantoor van die Afdeling, Kerkstraat, Pretoria.

Intekening is gratis. Skriftelike aansoeke moet gerig word aan:
Die Direkteur, Transvaalse Afdeling Natuurbewaring, Privaatsak X209
Pretoria, Transvaal, Republiek van Suid-Afrika, 0001

ISBN 0 7991 0191 5

Gedruk in die Republiek van Suid-Afrika deur Heer Drukkers (Edms) Bpk

Wit leeus, swart springbokke en pienk olifante

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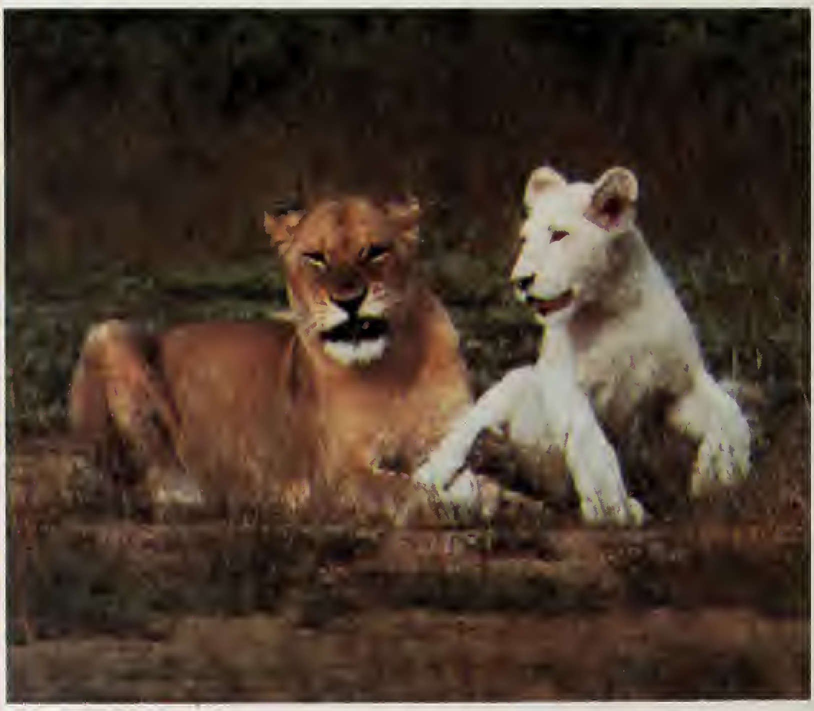
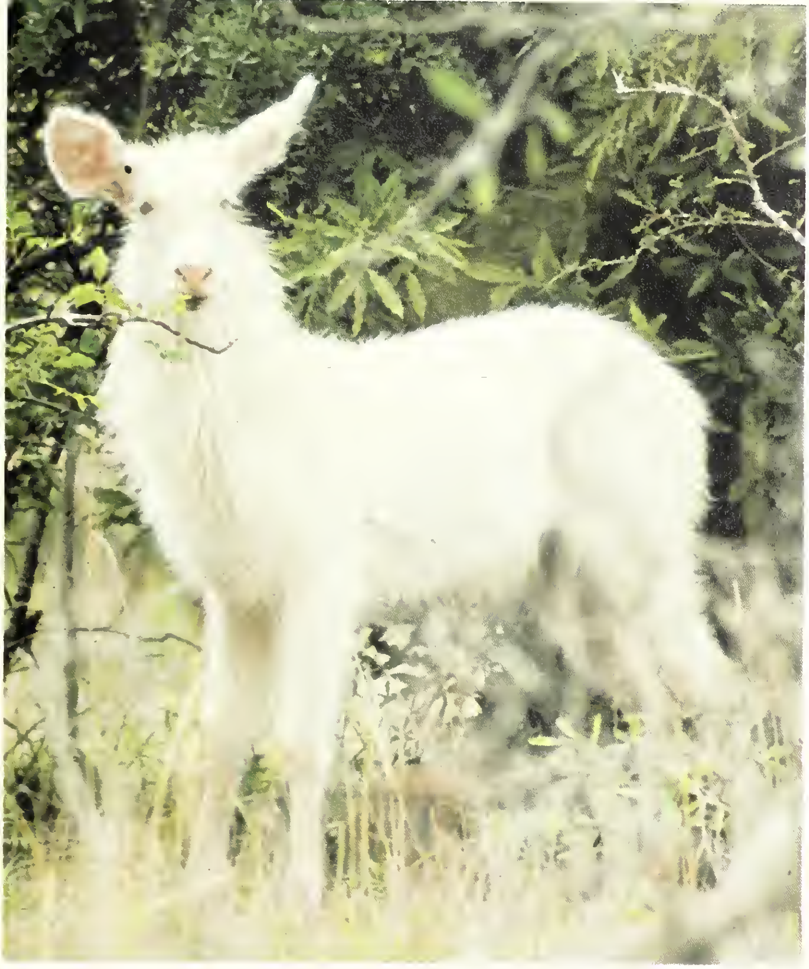


Wit leeu
Foto uit: *Wit leeus van die Timbavati deur Chris McBride.*
Uitgegee deur Ernest Stanton, Jhb.



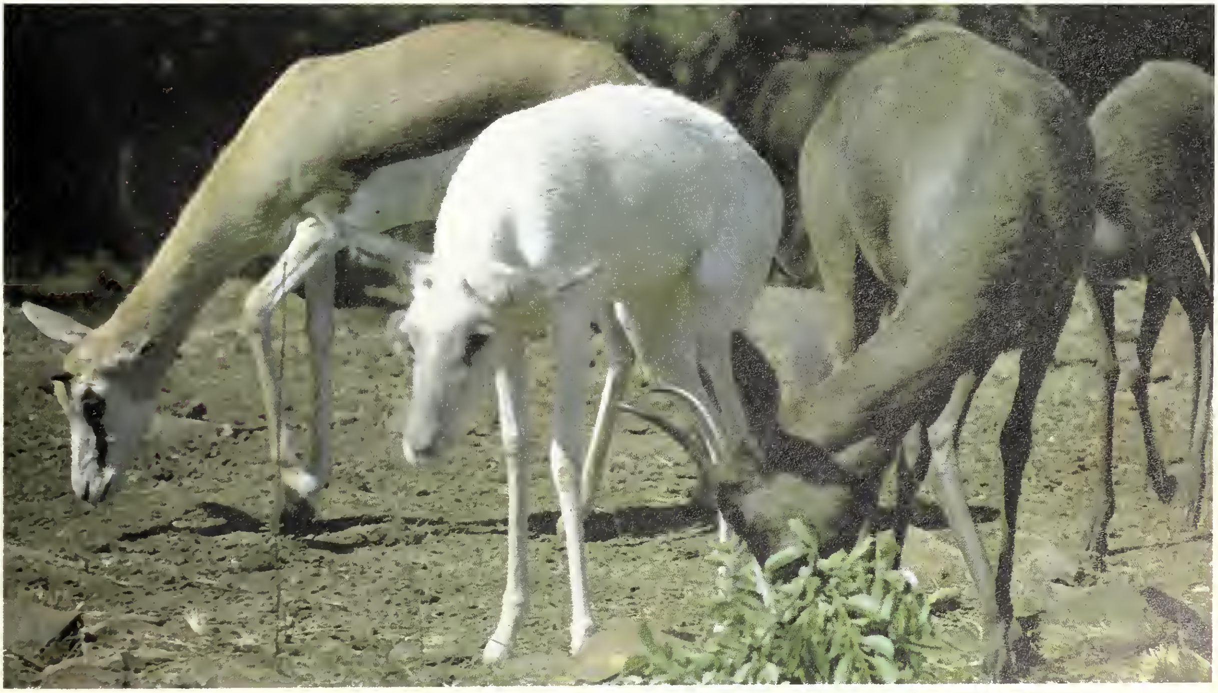
Wit leeus en swart springbokke kom deesdae meer algemeen in internasionale sportspanne as onder wilde diere in die natuur voor. Die spreekwoordelike pienk olifant maak ook meer algemeen sy verskyning in die openbare lewe as wat dit in die natuur die geval is. Nietemin, daar bestaan wel wit leeus, swart springbokke en pienk olifante in die natuur en in meegaande foto's word voorbeelde van interessante kleurafwykings in verskillende wilde diersoorte weergegee.

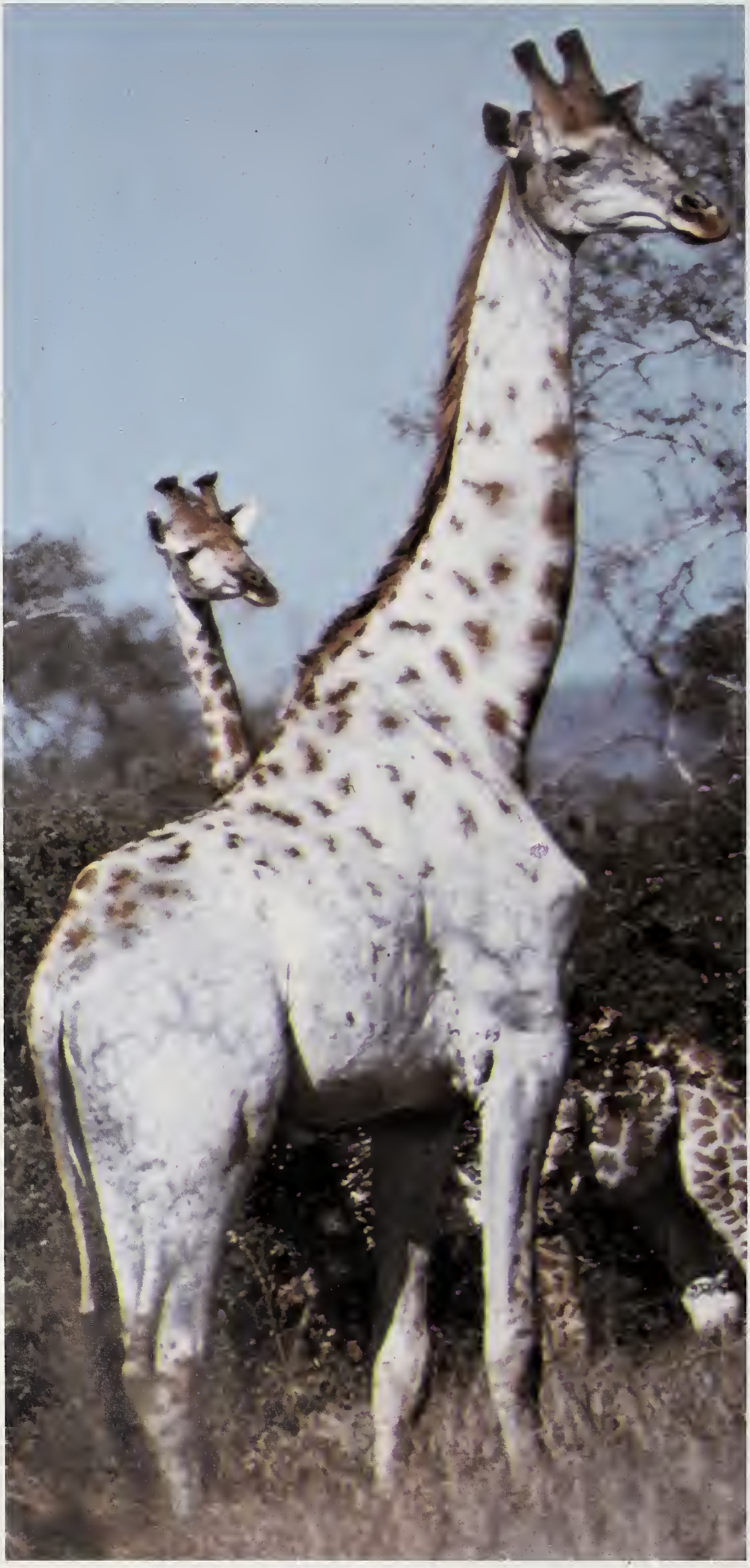
Die kleure van diere ontstaan op verskillende maniere. Die besondere helder weerkaatsende kleure van poue, glansspreeus en gouemolle is, byvoorbeeld, te wyte aan ligweerkaatsing op spesiaal vervormde selle in dié diere se vere of hare. Sulke kleure word strukturele kleure genoem.

In soogdiere speel die kleurstof, melanien, veral 'n belangrike rol by die vasstelling van elke besondere diersoort se spesifieke kleur. Wanneer melanien in abnormale hoë of lae konsentrasies, of in

Albino-waterbok
Foto: Tvl. Afd. Nat.
<

Springbokke van vele kleure.
Foto: Tvl. Afd. Nat.
V





'n ander kleur as swart voorkom, is onnatuurlike dog interessante kleurafwykings soms die gevolg. Laat ons na 'n paar voorbeelde kyk.

Wanneer die dier se hare oormatige hoeveelhede melanien bevat en dié kleurstof pikswart is, word die toestand melanisme genoem. Swart luiperds, springbokke, rooibokke en klipspringers is al opgemerk. Gedeeltelike melanisme kom ook soms voor, soos in die geval van die Burchell se sebra op meegaande foto.

Soos by die mens kom albino's ook by ander wilde diere voor. Albinisme is die gevolg van 'n gebrek aan die melanien-pigment in die mens of dier se vel en hare. By ware albino's is die oë pienk. In gevalle van gedeeltelike albinisme kom 'n geringe hoeveelheid melanien nog voor en is die wit dier se oë, asook van die ander liggaamsdele, soms donkerder van kleur. By albino-olifante is die velkleur, soos by die mens, wit of lig rooskleurig.

Albinisme is nie 'n algemene verskynsel nie. Desnieteenstaande is daar, benewens 'n hele paar albino-olifante ook reeds wit waterbokke, bosbokke, rietbokke, blesbokke, rooibokke, springbokke, klipspringers, elande, seekoeie, kameelperde, blou-ape, geelmeerkatte, vlermuise, ystervarke en krimpvarkies opgemerk.

Albinisme is ook 'n bekende verskynsel by voëls, visse, reptiele en ongewerwelde diere. Die onlangse ontdekking van twee wit leeus in die Timbavati-privaatnatuurreservaat, langs die Krugerwildtuin, het veral besondere belangstelling uitgelok.

Rufinisme is 'n derde kleurvariëteit wat ontstaan wanneer 'n rooi of rooibruin vorm van melanien in groot hoeveelhede in die vel en hare voorkom. Die bekende "rooi" luiperd wat vir jare lank deur die Nasionale Dieretuin in Pretoria aangehou was, is 'n goeie voorbeeld van hierdie tipe kleurafwyking.

In latere uitgawes van Fauna en Flora sal die wonders, en besondere belang van kleure in die natuur, weer eens onder die soeklig geplaas word. Lesers word hiermee vriendelik versoek om enige kleurafwyking, wat nie in die artikel vermeld is nie, asook enige ander besondere en interessante natuurverskynsels, onder die aandag van die skrywers van die artikel te bring.

<

'n Buitengewone wit kameelperd.
Foto: E. Young

Burchell se sebra: meer as net swart strepies.
Foto: D. Wolff
>

Olifante wat in wit modder gebad het kan verkeerdelik vir albino's aangesien word.
Foto: W. Massyn
V

Die tierboskat ~ 'n gespikkelde kat

Dr. Reay H.N. Smithers, *Senior Navorsingsbeampte*
Soogdier-navorsingsinstituut, Universiteit van Pretoria

Die tierboskat is lid van die baie bekende katfamilie of Felidae. Dit sluit onder meer die leeu, luiperd en jagluiperd of die "groot katte", soos hulle algemeen bekend staan, in. Die ander vier lede van die familie, die "klein katte", is die vaalboskat, rooikat, swartpootwildekat en die tierboskat.

Die beperkte verspreiding van die tierboskat kan toegeskryf word aan die feit dat hy gewoonlik net in gebiede met volop water aangetref word. Gedurende die dag skuil die tierboskat in die lang grasse of ruiebos.

Weens die sierlike lyne en helder kleure van die tierboskat, word hy as een van die mooiste kleiner katte beskou. Die lang bene van die tierboskat stel hom in staat om sy prooi maklik neer te trek. Hoewel 'n nagdier, jag hy in die vroeë oggend of laat middag, maar soms gebeur dit ook dat hulle op bewolkte dae tot laat in die oggend jag.

Sy dieet bestaan hoofsaaklik uit kleiner soogdiere en voëls, en word met slange, akkedisse, insekte en paddas aangevul. Die tierboskat vang ook knaagdiere en is veral van groot waarde in landbougebiede.

Soos die rooikat, spring die tierboskat ook in die lug om 'n vlieënde grassprinkaan of 'n voël tussen sy voorpote te vang. Die prooi word in die lug katswink geslaan en dan gegryp.

'n Werpsel bestaan gewoonlik uit twee of drie kleintjies. Hoewel die kleintjies verder noord gewoonlik gedurende die laaste somermaande gebore word – Januarie tot April – kom geboortes so laat as Junie ook voor. Die wyfie is baie waaksaam en sodra sy gevaar gewaar, sal sy die kleintjies een vir een na 'n veiliger skuiling neem. Sodra die kleintjies op hulle eie kan beweeg, leer sy hulle om self te jag.

Hoewel tierboskatte in gevangenskap tot twaalf jaar oud word, kon hulle lewensduur in die natuur nog nie bepaal word nie. Pogings is aangewend om die tierboskat en vaalboskat in gevangenskap te laat verbaster en die nageslag is reeds volgroeid. Op tweejarige ouderdom het die baster die algemene bou van 'n vaalboskat gehad, met dié kat se kop, gesig en kort bene. Die pels is egter oorwegend donker grys en met kolle soos 'n tierboskat bedek.

Navorsing op die tierboskat maak deel van 'n groter projek oor die klein vleisetende diere van Suidelike Afrika uit.

Hierdie projek word geborg deur die Transvaalse Afdeling Natuurbewaring en die WNNR. Die tierboskat is een van ons kleiner katsoorte wat die moeite werd is om te beskerm, nie alleen vir sy aantreklikheid nie, maar ook omdat hy nuttig is.

Verspreiding van die tierboskat in Suidelike Afrika.
V

Die tierboskat – een van die mooiste kleiner katte.
Foto: L. Stanton
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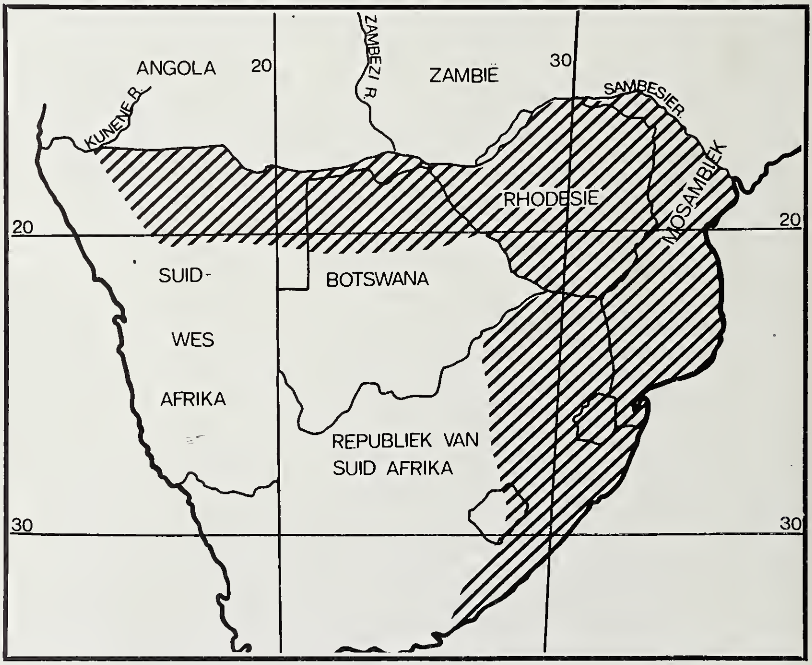

Blyderivierspoort-natuurreservaat – paradys vir Suid-Afrikaanse primate

Cecilia Louw, *Voorligtingsbeampte*
Transvaalse Afdeling Natuurbewaring

Primaat, wat "eerste" beteken, is die naam wat Linnaeus gekies het om die diere-orde, wat die sowat tweehonderd soorte ape, bobbejane en die mens insluit, te benoem.

Vanweë die verskillende habitattipes waaroor die Blyderivierspoort-natuurreservaat beskik, word al ses Suid-Afrikaanse primate, te wete, die mens, die bobbejaan, blou-aap, samango-aap, bosaap en nagapie, in dié gebied aangetref.

Die bobbejaan, *Papio ursinus*, waarskynlik die mees bekende van die primate, kom hoofsaaklik in die rotsagtige hellings voor. Wanneer dié interessante diere kos soek, beweeg hulle in troppe. Dié bobbejaan is 'n omnivoor en benut 'n groot verskeidenheid voedsel.

Ander soogdiere maak, veral by drinkplekke, staat op die effektiewe opmerksaamheid van die bobbejaan. Die groot mannetjies is uitsonderlik sterk en baie vinnig van humeur.

Omdat die luiperd die bobbejaan orals kan volg, word hy as sy grootste vyand beskou en die teenwoordigheid van 'n roofdier kan 'n hele trop histeries van angs maak.

Klein bobbejaantjies kom met pienk gesiggies in die wêreld en klou aan die moeder se bors vas. Later ry hulle soos ruiters op haar rug rond. Die bobbejaan het nie 'n vasgestelde teelseisoen nie en kleintjies word dwarsdeur die jaar gebore. Die draagtyd is sewe maande.

Die blou-aap, *Cercopithecus aethiops,* kom oral in die Blyderivierspoort-natuurreservaat voor, hoewel dit lyk of dié dier beter in die bosgedeeltes aangepas is. Hulle leef van wilde vrugte, blare, voëleiers, spinnekoppe, insekte, sade en wilde plante. Die luiperd, groter valke en luislange is vyande van die blou-aap. Kleintjies word deur die jaar, na 210 dae

van swangerskap gebore. Wanneer die trop vinnig moet beweeg, klou die kleintjies aan die moeder se bors vas of ry op haar rug.

Die Samango-aap, *Cercepithecus mitis*, is in die Blyderivierspoort beperk tot die immergroen woud. Hoewel dié skaars aapsoort nie so lawaaierig soos die blou-aap is nie, het hy 'n kenmerkende geluid waarmee hy maklik geïdentifiseer kan word. Hulle kom in klein groepies voor en word deur verskillende roofdiere,

Die blou-aap beweeg in bome wat langs riviere groei.
Foto: D. Wolff
Λ

Die Samango-aap het 'n kenmerkende geluid waarmee hy maklik geïdentifiseer kan word.
Foto: L. Stanton
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Die bobbejaan word hoofsaaklik in die veld en op rotsagtige koppies in die reservaat aangetref.
Foto: D. Wolff

vaaronder grotere roofvoëls soos die roonarend, bedreig.

Die bosaap, *Galago crassicaudatus*, is 'n oomlewende nagdier en word in die lyderivierspoort-natuurreservaat in die erg- en rivierwoude aangetref. Die iertjie verraai sy lokaliteit deur die geveldige lawaai wat dit tydens hulle trooptogte in die nag maak. Een of twee leintjies word op 'n keer in neste van lare in hol boomstappe gebore.

Die nagapie, *Galago senegalensis*, is 'n nsekvretende primaat wat in die savanegedeeltes van die Blyderivierspoort-atuurreservaat voorkom.

Dié aantreklike lewendige diertjie, eweeg gemaklik, met asemrowende pronge, van tak tot tak. Hulle beweeg lleen of in klein groepe en slaap bedags n hol boomstamme of grasneste. Hoewel nuskeljaatkatte ook graag nagapies vang, vord uile as hulle grootste vyand beskou.

Vanweë 'n ooreenkoms in anatomie, isiologie en sosiale gedrag, word die nens saam met die primate geklassifiseer. Die Blyderivierspoort-natuurreservaat, vat ook deur mense bewoon en besoek vord, is in die unieke situasie om van die nin plekke te wees waar al ses die Suid-frikaanse primate voorkom.

Die nagaap beweeg met asemrowende sprongе, emaklik van tak tot tak.
oto: P. Barichievy
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Die bosaap – 'n boomlewende nagdier.
oto: P. Barichievy
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Suid-Afrikaanse watervoëls vlieg ver

Richard Dean, *Natuurbewaringsbeampte*
Transvaalse Afdeling Natuurbewaring

Gedurende sekere tye van die jaar, migreer talle voëls van een omgewing na 'n ander. Sommige voëls bly gedurende die broeiseisoen in een gebied en beweeg dan na ander gebiede gedurende ander tye van die jaar. Andere se bewegings word weer tot 'n groot mate deur die beskikbaarheid van kos en ander lewensbehoeftes bepaal.

Eende, *Anatidae,* migreer nie net gedurende die broei of ververingsseisoen nie, maar ook wanneer kos in ander gebiede beskikbaar is. Die eende in Suid-Afrika het geen gereelde seisoenale bewegings soos die eende van die noordelike halfrond nie. Gedurende hul ververingstydperk kan hulle nie vlieg nie en skuil dan gewoonlik by groter mere en damme.

Navorsing oor die beweging van drie plaaslike spesies naamlik die geelbek-

Die bruin-eend kom hoofsaaklik in die oostelike helfte van die sub-kontinent voor.
Foto: L. Stanton
V

end, *Anas undulata*, rooibek-eend, *Anas rythrorhyncha*, en bruin-eend, *Netta erythropthalma*, het getoon dat hierdie speies baie beweeglik is. Eende wat by die Ornitologiese Navorsingstasie te Barberspan met klein metaalringe gemerk is, s sover as Kenia in die Ooste en Suid-Angola in die weste waargeneem. Die ang afstand bewegings van die spesies word op die gepaardgaande kaart aangedui.

Geelbek-eende wat by Barberspan gemerk is, se bewegings was hoofsaaklik ot Transvaal, Vrystaat en Natal beperk. n Aantal van die voëls is ook in Kaaptad en selfs in Gobabis, in Suidwes-Afrika opgemerk.

Rooibek-eende het so ver noord as Sá da Bandeira in Angola beweeg. Van die gemerkte voëls is ook in Zambië en Mosambiek opgemerk. Die bruin-eend is vanaf die Meer Naivasha, Kenia tot sover as Kaapstad in die suide gevind.

Omgewingstoestande speel 'n belangrike rol by die beweging van dié drie spesies. Gedurende die droë seisoen word hulle gewoonlik by groot waters soos Barberspan aangetref. Gedurende die reënseisoen vertrek hulle weer na ander oorstroomde habitatte om te broei.

Sommige voëls verveer in een gebied, paar in dieselfde of 'n ander gebied, broei moontlik nog in 'n derde gebied en gaan oorwinter weer in 'n ander gebied. In sulke gevalle is dit noodsaaklik om die nodige beskerming aan sulke voëls in dié gebiede te gee. Dié trekvoëls bemoeilik hulle bewaring aansienlik en effektiewe bewaring is slegs moontlik indien die nodige samewerking tussen die betrokke lande bestaan.

Die geelbek-eend word hoofsaaklik in Transvaal, Natal en in die Vrystaat aangetref.
Foto: L. Stanton
>

Gedurende hulle ververingstydperk vlieg rooibek-eende na ander gebiede om daar te skuil.
Foto: L. Stanton
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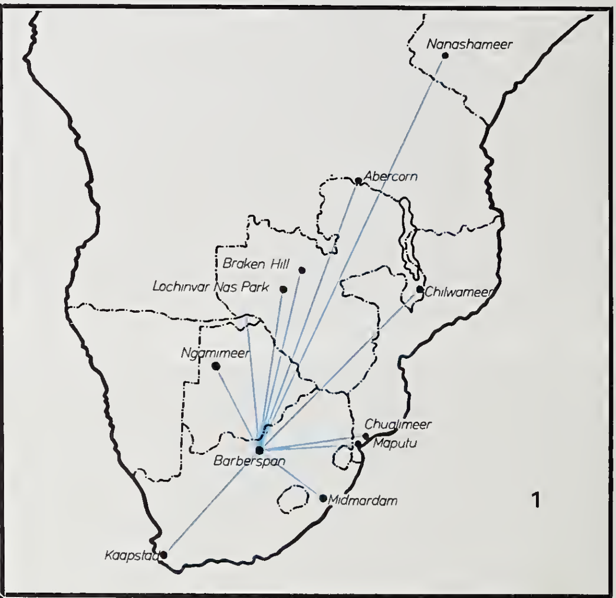
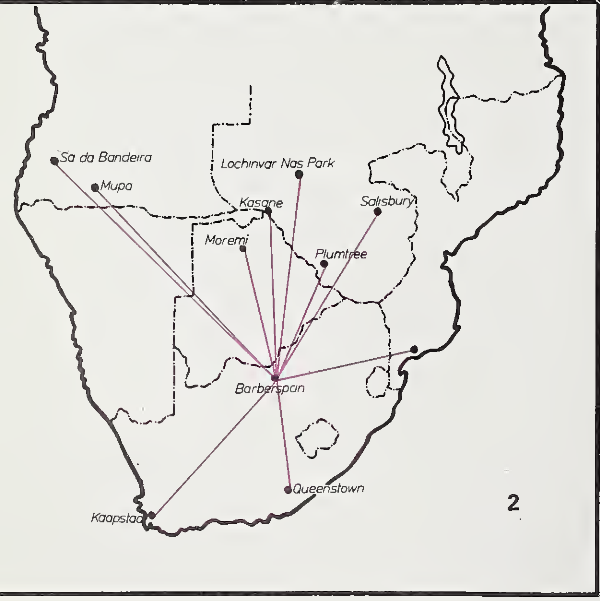
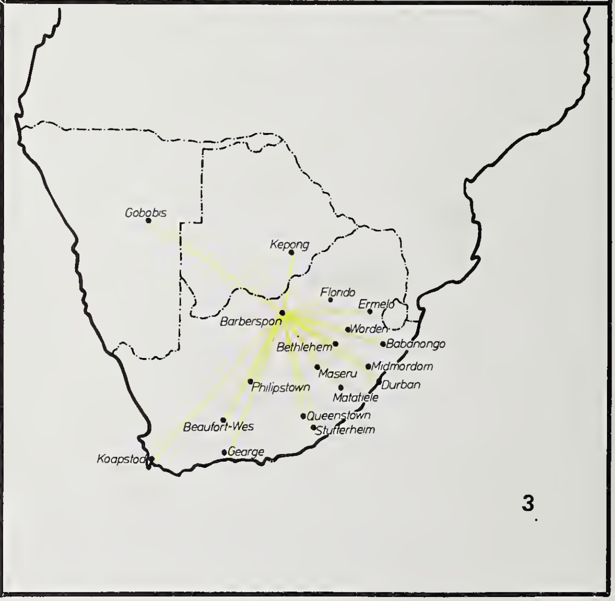
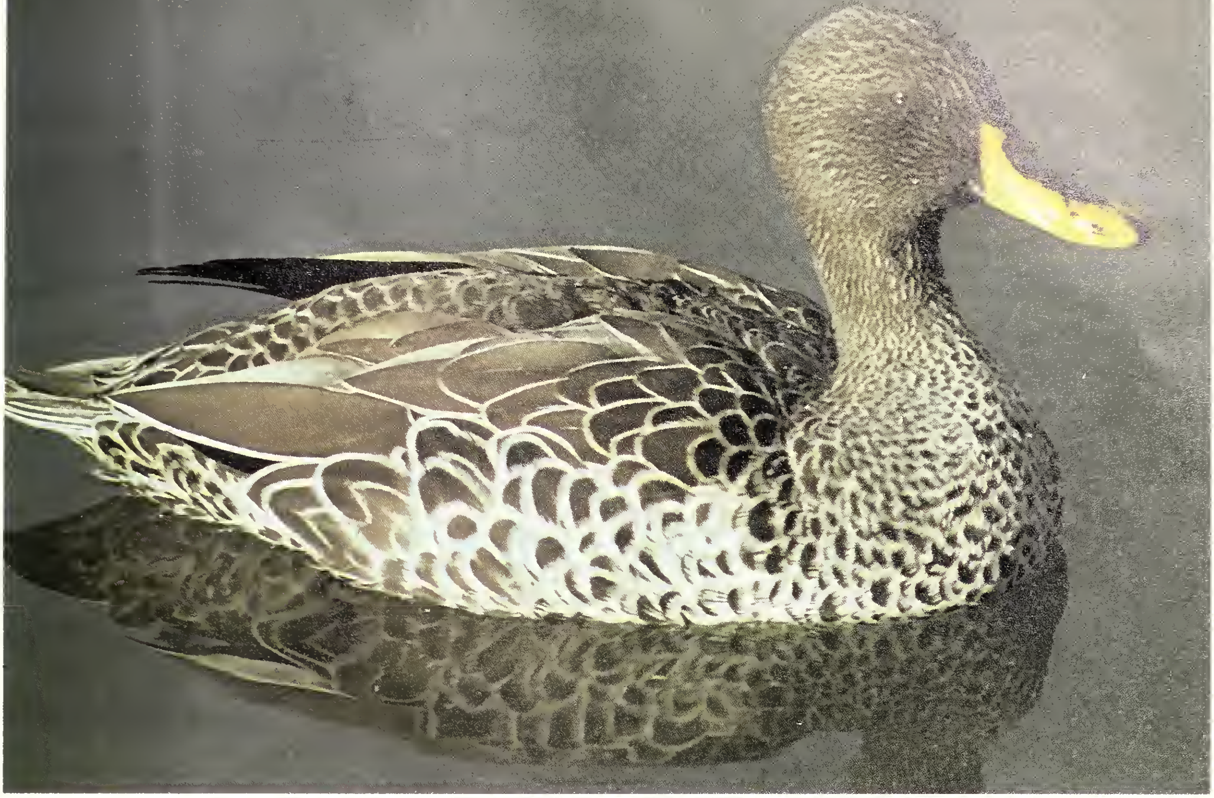
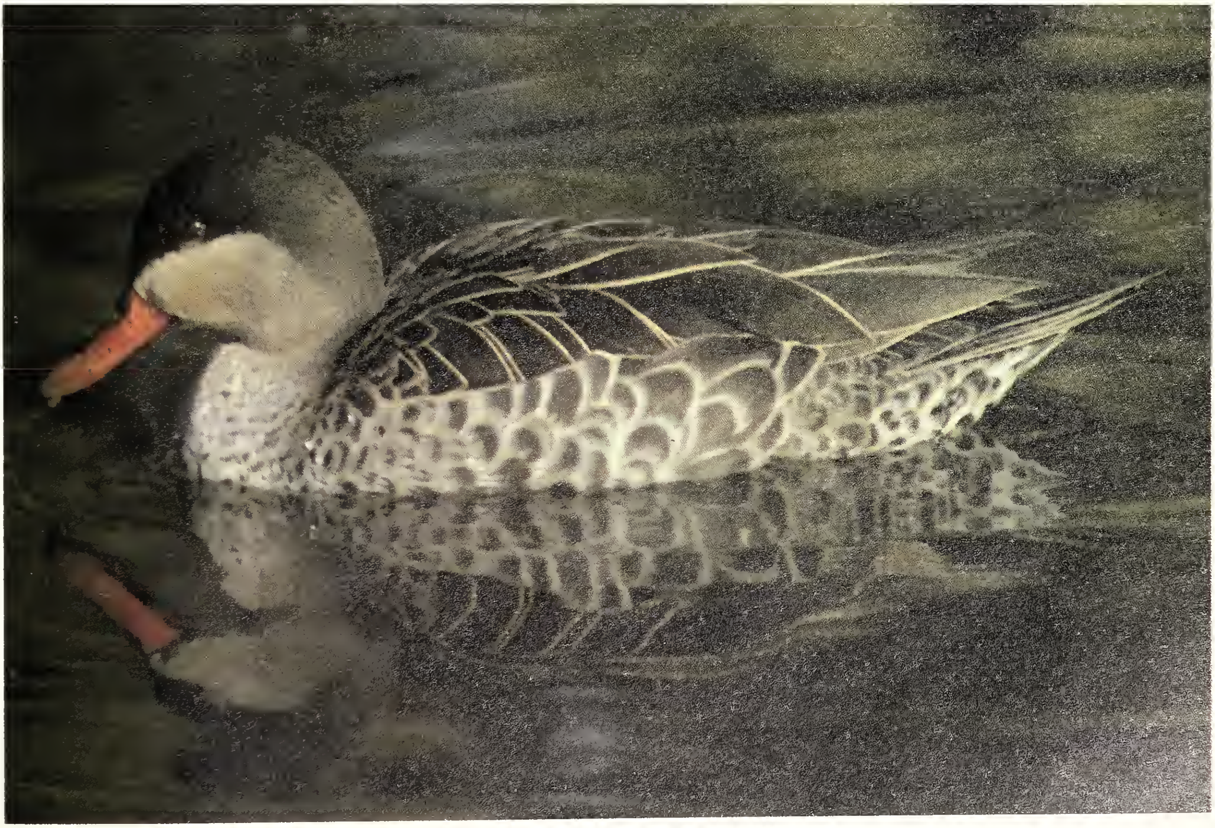
Vliegafstande van Bruin-eende (Fig 1), Rooibek-eende (Fig 2) en Geelbek-eende (Fig 3), wat by die Barberspan Ornitologiese Navorsingstasie gemerk is.











Leeunavorsing in die Sabi-Sandwildtuin

Petri Viljoen, *Senior Vakkundige Beampte*
Transvaalse Afdeling Natuurbewaring

Deur al die eeue heen het die leeu 'n groot invloed op die tradisies en mites van die mens gehad. Dié grasieuse katsoort, wat reeds sedert die vroegste eeue as die koning van die diereryk beskou word, het oorspronklik wydverspreid deur Afrika voorgekom. Namate natuurlike gebiede deur die mens bevolk is, het die verspreidingsgebied van die leeu gekrimp.

Leeus is in Suider-Afrika hoofsaaklik tot die Kalahari-Gemsbok Nasionale Park, Nasionale Krugerwildtuin en Etosha-wildtuin beperk. Kleiner groepies kom in die Umfolozi-wildtuin en sekere van die natuurreservate, aangrensend aan die Krugerwildtuin, voor.

'n Omvattende ondersoek van die leeus in die Sabi-Sandwildtuin word tans deur die Transvaalse Afdeling Natuurbewaring gedoen. Dié reservaat, aangrensend aan die Krugerwildtuin, is in privaatbesit en beslaan 575 vk km. 'n Groot verskeidenheid wildsoorte, wat wissel van olifante en leeus tot 'n verskeidenheid boksoorte, word hier aangetref.

Hoewel dié opname hoofsaaklik gemaak word om die leeugetalle in die reservaat te bepaal, word hul verspreiding en bewegings ook bestudeer.

Omdat leeus in die nag meer aktief is, word hulle dan gevang en gemerk. Om die leeus nader te lok, word 'n bandopname van roofdiergeluide net na sononder gespeel. 'n Bokkarkas word ook in die omgewing geplaas om die leeus nader te lok. Terwyl die leeus aan die karkas vreet, kan hulle dus maklik vanaf 'n voertuig met 'n verdowingspyl geskiet word.

Na immobilisering word die leeus met oorplaatjies van verskillende kleure gemerk, sodat hulle maklik van mekaar onderskei kan word. Sodoende kan die bewegings van individuele leeus en leeutroppe gevolg word.

Die leeu is een van die meer sosiale katsoorte wat in redelike stabiele groepe voorkom. 'n Groep bestaan gewoonlik uit 'n kern van drie tot tien of meer volwasse leeuwyfies, vergesel deur 'n kleiner groepie volwasse mannetjies. Die trop sluit ook welpies en jong leeus in. Al die lede van die leeutrop is selde bymekaar. Enkeles dwaal dikwels vir lang periodes op hulle eie rond.

Elke leeutrop het 'n woongebied wat gewoonlik verskeie kilometers in deursnee is. Vreemde leeus word veral deur die mannetjies weggehou. Sulke woongebiede het geen duidelike afgebakende grense nie, en kan selfs na gelang van seisoene verskuif. Soms raak sekere leeus nomadies en volg dan die wildtroppe.

Omdat leeus so gewild onder toeriste is, bly dit een van die groot aantreklikhede in 'n reservaat. Daarby saam help leeus en ander roofdiere om 'n ewewig onder prooidiere te handhaaf en vervul hulle 'n baie belangrike rol in die natuur.

Mnr. Petri Viljoen besig om die mates van 'n leeu te neem tydens die populasiestudie in die Laeveld.
Foto: N. Zambatis
V

Koning van die diere.
Foto: D. Wolff
>

Warwick Tarboton, *Senior Vakkundige Beampte*
Transvaalse Afdeling Natuurbewaring

DIE LAMMERGEIER

Die Lammergeier of Lammervanger het 'n lang wigvormige stert wat kenmerkend gesprei is wanneer hy vlieg. Die lang, swart haaragtige vere wat sy oë omring en tot onder sy snawel in twee klosse hang, gee aan diè voël 'n bebaarde voorkoms. Dié reusagtige voël het 'n vlerkspan van 2,5–2,8 meter.

Sommige wetenskaplikes beweer dat 'n Lammergeier aan die aasvoël verwant is, maar die bewering kan nie bevestig word nie, omdat die Lammergeier ook karaktertrekke van die arend toon.

Lammergeiers woon gewoonlik in hoë bergreekse en hulle verspreiding deur Afrika, Europa en Asië word op die aan-

Hoewel lammergeiers vroeër jare volop voorgekom het, word hulle vandag baie selde gesien.
Foto: J. Jacques
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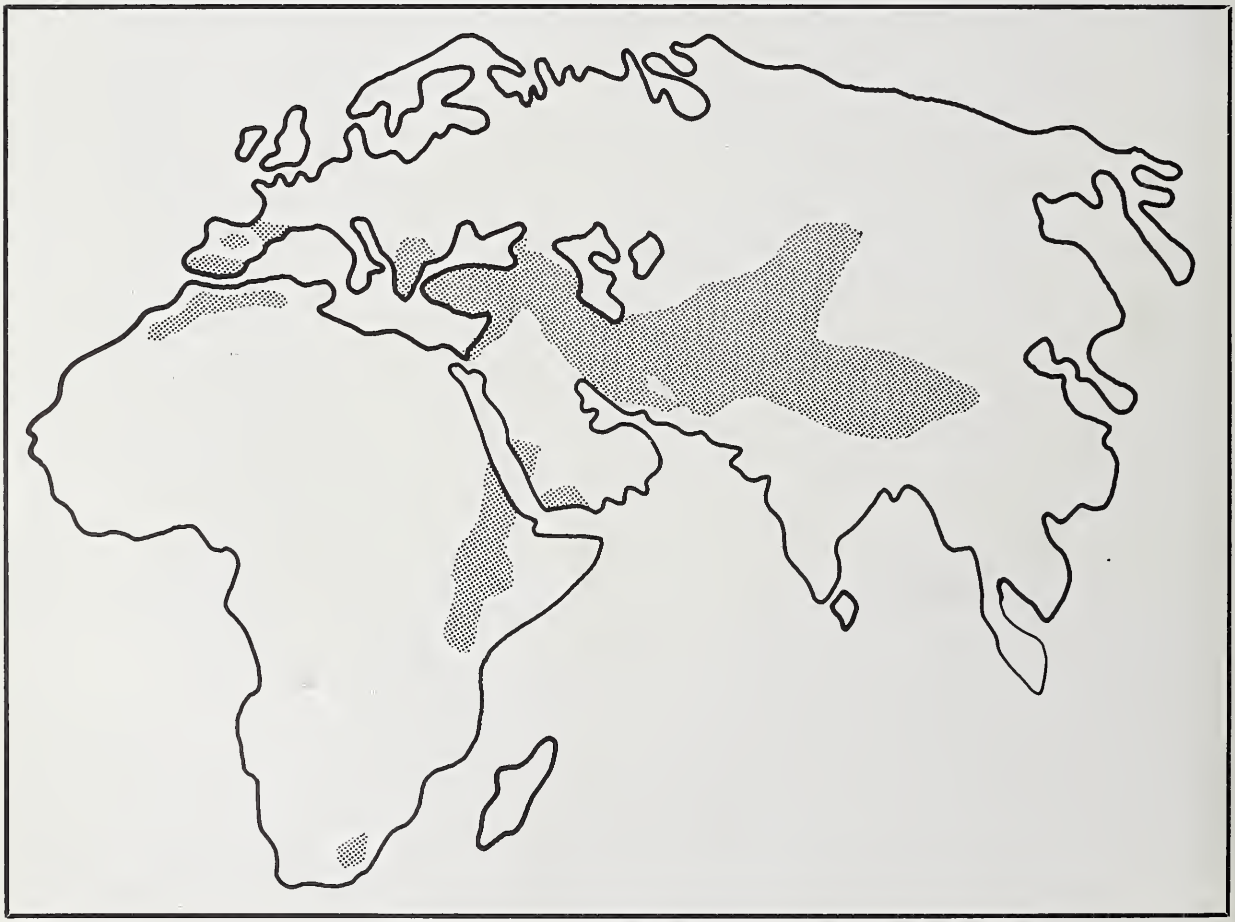
Verspreiding van die Lammergeier deur die wêreld.
V



gehegte kaart aangedui. In Suidelike Afrika is hulle tot die hoë plato van Lesotho en die Natalse Drakensberge beperk. Hoewel hulle totale populasie hier op minder as honderd geskat word, is die voëls nie orals so skaars nie. In Ethiopië word hulle algemeen aangetref en in Tibet word hulle as "volop" beskryf.

Volgens die vroeë reisigers was Lammergeiers nie altyd so skaars in Suid-Afrika nie. Hulle het die voëls in Kaapstad, Durban en in groot dele van die Oos Kaap aangetref. As gevolg van 'n gebrek aan aas en uitwissing deur mense, het die getalle van dié voël so drasties verminder.

Lammergeiers kan in die algemeen as aasvreters beskou word en sal karkasse plunder nadat die aasvoëls daarmee klaar is. Hulle word maklik deur aasvoëls gedomineer en kry gewoonlik net die oorskiet stukke en bene.

Terwyl hulle hoog in die lug sirkel, is hulle die hele tyd op die uitkyk vir moontlike prooi. Gevalle is bekend waar hulle lewendige prooi, soos dassies, vang. Dit maak 'n belangrike deel van hulle dieet uit.

'n Interessante feit aangaande dié voël is dat hy stukke been uit die lug op rotse laat val om dit te breek. Lammergeiers het die gewoonte om bene op dieselfde rots te gooi sodat die rots later met beensplinters besaai is. Die lammergeier nader die rots gewoonlik wind af om sodoende sy spoed te vermeerder. Wanneer hy die been los verminder hy sy spoed en land. Die hele proses word gewoonlik 'n paar keer herhaal.

'n Geloofwaardige waarnemer vertel hoe 'n lammergeier 'n lewendige dassie so uit die lug laat val en toe gaan land het om dit te eet. Dit laat mens dink dat hulle dié tegniek ook gebruik om hulle prooi dood te kry.

Hoewel hulle in Suidelike Afrika gedurende die winter nes maak, geskied dit elders gedurende die somer. Die nes word gewoonlik op 'n beskermde lys onder 'n hoë rots gemaak en daar word baie keer jaar na jaar op dieselfde plek gebroei. Die broeityd duur gewoonlik vier maande. Hoewel een of twee eiers gelê word, word net een kuiken gewoonlik grootgemaak.

Die kuikens is gewoonlik roetagtig bruin en wanneer hulle begin vlieg, is hulle herkenbaar aan hulle bruin koppe en nekke. Die voëls ontwikkel eers op 'n ouderdom van vyf jaar vere kenmerkend van die volwasse voël. Daar is ook gevalle bekend waar voëls reeds gebroei het voordat hulle volgens hulle veredrag volwassenheid bereik het.

Indien dié manjifieke voël nie in die toekoms beskerm word nie, is dit te betwyfel of hy nog lank sal kan voortbestaan.

Die steenbok ~ kluisenaar van die veld

Michael Cohen
Vakkundige Beampte
Transvaalse Afdeling Natuurbewaring

Die bekoorlike ratse steenbokkie word nêrens anders in die wêreld as in Afrika aangetref nie. Hulle kom wyd verspreid in die Republiek voor en word vanaf die mees suidelike punt in die land tot by die noordelike grense aangetref.

Volgens dierkundiges is steenbokke lede van 'n bekende groep dwergbokke. Al die lede van dié groep is klein van gestalte. Lede van die groep sluit die grysbok, klipspringer, oorbietjie en dikdik in. Die kleur van die bok is 'n tipiese helder rooi-vaalbruin met 'n silwer skynsel. Die onderdele van die lyf en boude is spierwit. Dié fyn bok het 'n gemiddelde skouerhoogte van 52 cm en 'n massa van 11 kg. Die bok het 'n kenmerkende groot paar ore en sy stert is nie veel meer as 'n kwassie nie.

Die steenbok bly in 'n beperkte klein gebied en ander diere van dieselfde geslag en soort word nie toegelaat nie. Hierdie gedrag het tot gevolg dat steenbokkies 'n afsonderlike bestaan voer en dikwels alleen wei. Steenbokke is ware kluisenaars en hulle beweeg baie selde saam met ander diere.

Ten spyte van die afgesonderde leefwyse van die steenbok word hul dikwels in die nabye teenwoordigheid van ander steenbokke wat hulle òf kan ruik òf kan sien, aangetref.

Steenbokke word nie toevallig in sekere gebiede aangetref nie. Die steenbok baken vir homself 'n bepaalde loopgebied af, ook genoem 'n territorium, en maak seker dat daar in dié gebied voldoende weiding en skuiling vir hom of haarself en vir die lammertjies is. Steenbokke kom gedurende al die seisoene in dieselfde gebied voor en beweeg nie van een gebied na 'n ander nie.

Die territoriums word op verskillende maniere gemerk. Mishopies word rondom die gebied gemaak of so nie word klierafskeidings teen boomstamme en grasse afgesmeer. Dit dien as waarskuwing vir steenbokke van aangrensende gebiede dat dié gebied reeds beset is. Van die afskeidings kom uit die keel van die steenbok en is uniek aan die bepaalde diersoort.

Die steenbok word tans effektief in Suid-Afrika beskerm en net soos met baie ander van ons spesies, is besetting deur die mens skynbaar die enigste bedreiging vir hulle toekoms.

Die oorbietjie is ook lid van die bekende groep dwergbokke.
Foto: P. Viljoen
V

Die skugter steenbok.

Foto: L. Stanton
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Die varswaterpaling – 'n besondere vissoort

Madagaskarbontpaling.
Anguilla marmorata.

Feltus Brandt
Senior Vakkundige Beampte
Transvaalse Afdeling Natuurbewaring

Hoewel varswaterpalings nie baie deur die hengelaar gevang word nie, vind die varswaterbioloog dit 'n besondere interessante kreatuur. Net so, verskaf die fynproewer 'n voortreflike mark wat tot ekonomiese ontginning van hierdie slangagtige vissoort lei.

Daar is sestien palingsoorte beskryf, waarvan drie algemeen in die oosvloeiende riviere van die Republiek van Suid-Afrika en Rhodesië aangetref word. Varswaterpalings kom nie aan die weskus van Afrika voor nie. Die lewenssiklus van palings in varswater is reeds goed bestudeer, maar hul lewe in die see bly nog steeds 'n raaisel vir die mens. Daar word van die veronderstelling uitgegaan dat palings in die diepsee by ongeveer 400–700 meter en in die geval van Suid-Afrikaanse palings, oos van Madagaskar, broei.

Die pas-uitgebroeide palings, ook genoem leptocephali, het 'n blaaragtige voorkoms en word in die somermaande deur seestrome na die vasteland aangedryf. By riviermondings ondergaan die larwes hul eerste gedaanteverwisseling om nou as klein volwaardige palings of elwers met hul lang trek, dikwels meer as 1 000 km, die binneland in te dring. Hul verblyf in varswater word aan voeding, groei en geslagtelike ontwikkeling gewy en kan selfs so lank as 10 tot 30 jaar duur.

Gedurende die laaste somer van hul verblyf in varswater ondergaan die "bruinpaling" – die naam is ontleen aan sy kleur tydens dié groeifase – 'n finale gedaanteverwisseling as voorbereiding vir sy lewe in die see. Die paling ontwikkel groot oë, 'n eienskap wat aan diepseevisse gekoppel word, die vel verkleur na 'n skitterende silwer glans en 'n wit glinsterende buikgedeelte kom ook te voorskyn. Wanneer riviere in vloed is, word die lewenssiklus afgesluit met die lang trek van die "silwerpaling" na die see waar hulle dan vermoedelik na die broeigronde van hul voorvaders terugkeer, 'n enkele broeisel voortbring en dan sterf.

Die massa-migrasie van silwerpalings is dikwels die basis waarop die Europese palingbedryf berus. Daar word jaarliks ongeveer 25 000 ton palings in natuurlike waters vir bemarking geoes. Europa vorm die grootste afsetgebied en verorber jaarliks nie minder as 22 000 ton palings nie. Suid-Afrika het nog nie dié bedryf betree nie. Oosterse lande, veral Japan, word genoodsaak om elwers in riviermondings te vang en in oop damme of damme met lopende water groot te maak.

Terwyl palings nog klein is, kan hulle op verbasende wyse hindernisse soos damwalle in riviere oorkom deur in rotsskeure en teen nat mosoppervlaktes op te wurm. Namate die palings groter word, vind hulle dit al hoe moeiliker om in riviere te beweeg en voedstrome bokant groot watervalle en besproeiingskemas word dan uitgesluit. Palings is vleisetend en daarvoor bekend dat hulle graag op varswaterslakke voed, waarvan sommiges die tussengasheer van bilharsia, 'n bloedparasiet in soogdiere is. Die vraag word nou gestel of daar 'n verband tussen die toename en verspreiding van die parasiet en die oënskynlike afname van palings in Suid-Afrika is.

Palings is uitstekende hengelvisse en kan effektief met erdwurms, krappe en klein vissies gevang word. Palings word gewoonlik gedurende die nag gevang en omdat hulle 'n massa van 10–20 kg bereik, is sterk hengelgerei nodig om dié groottes aan te keer.

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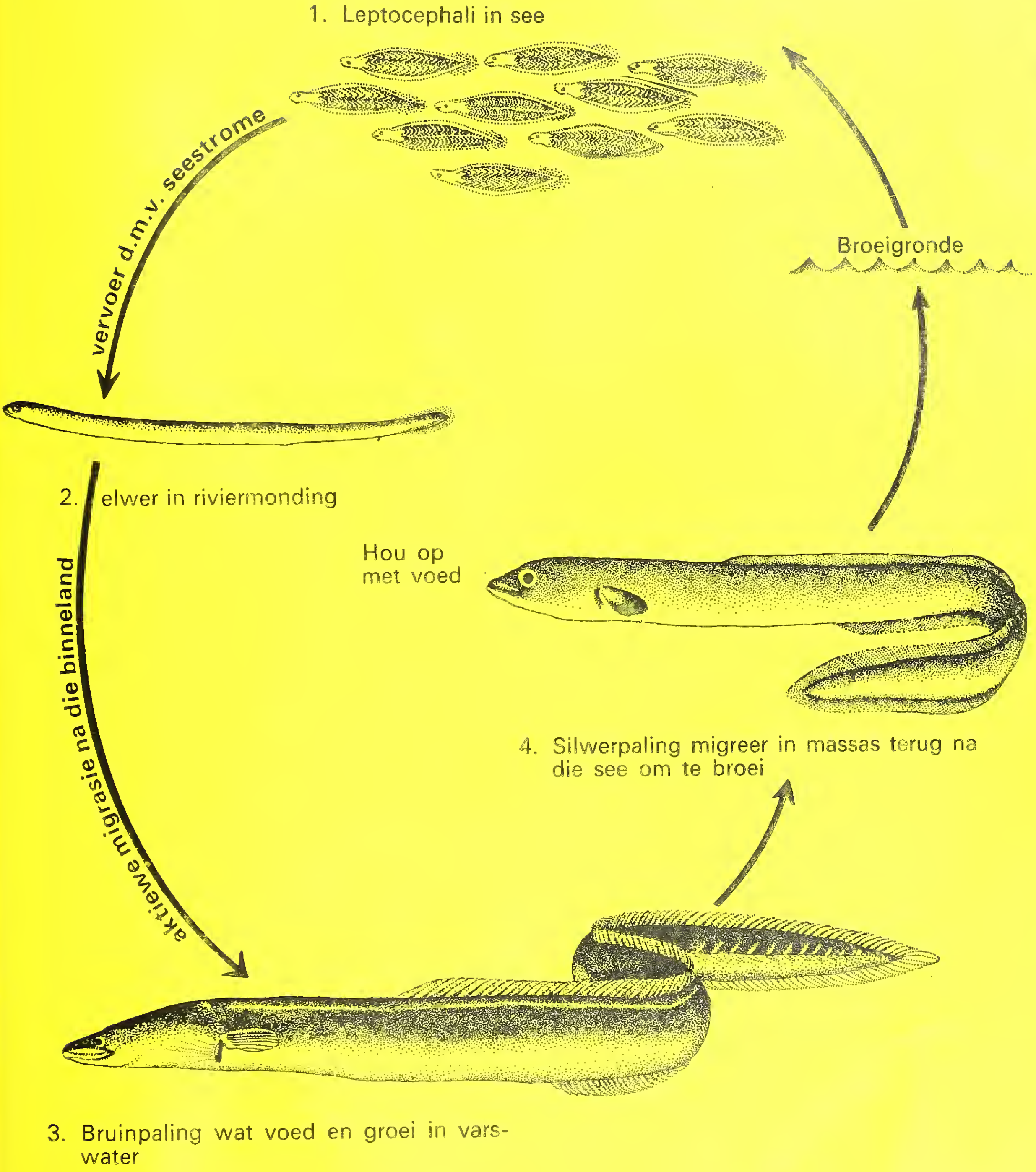
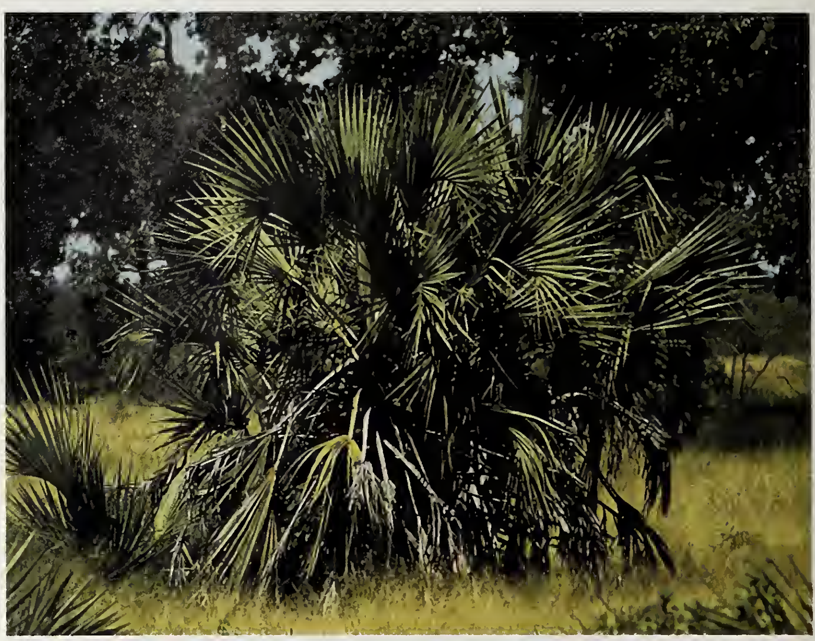
Die lewenssiklus van die varswaterpaling.

Die lewenssiklus van die varswaterpaling


1. Leptocephali in see
vervoer d.m.v. seestrome
Broeigronde
2. elwer in riviermonding
aktiewe migrasie na die binneland
Hou op met voed
4. Silwerpaling migreer in massas terug na die see om te broei
3. Bruinpaling wat voed en groei in varswater



Nick Zambatis
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Inheemse palms van die Transvaal

Die palm-familie, wat uit sowat 1 000 spesies bestaan, word wydverspreid in die tropiese en sub-tropiese dele van die wêreld aangetref.

In die tropiese dele is dié bome tot nut van die mens en vervaardig hulle produkte daarvan. Slegs twee inheemse palms word in die Transvaal aangetref, tewete, die wilde dadelpalm, *Phoenix reclinata,* en die ilala of waaierpalm, *Hypaene natalensis.*

Die wilde dadelpalm, is in sekere gevalle 'n stamlose veeragtige bos terwyl ander weer baie kort stamme het. In die meer tropiese dele is dié plant meerstammig met lang gebuigde stamme. Dit gee aan dié boom 'n baie aantreklike voorkoms. Die palm groei dikwels op rivieroewers, maar kom ook meesal in die sandbeddings voor.

Die eiervormige dadel, wat ooreenstemming met 'n gewone dadel toon, is ietwat kleiner met 'n enkel, diep gegroefde saad. Dié saad is met 'n dun vleisagtige laag bedek. Bobbejane en ape is baie lief om beide die dadel en die sagte nuwe uitloopsels te eet. Verskeie soorte voëls eet ook die dadels en help sodoende om die saad te versprei. Olifante op hulle beurt eet behalwe die dadels, die blare en wortels. Die larwes van 'n groot bruin skoenlapper, die Palmboom Nagvegter, *Zophopetes dysmephilia,* leef van die blare.

Vir die swartman is die palm ook van nut op verskeie maniere. Die hart van die kroon word geëet en die hoofnerf word gebruik om matte en mandjies te weef. Die ou bloeiwyses word as besems gebruik. Besems en borsels word ook van die stamvesels vervaardig.

Tydens die jong Xhosa-seuns se inisiasieseremonie dra hulle bedekkings wat van die blare van die palm gemaak word. 'n Alkoholiese drank, wat soos gemmerbier smaak voordat dit gegis het, word van die sap gemaak.

In die Transvaal word die wilde dadelpalm volop in die Oostelike Laeveld en die Nasionale Krugerwildtuin aangetref. Die palm groei ook in die effens hoër dele van die Oostelike Provinsie, Transkei, Natal en Zululand. Verder kom dit ook in tropiese Afrika tot in Egipte voor.

Die ilala of waaierpalm verkies laagliggende gebiede in die somerreënvalstreke. Dié palm groei hoofsaaklik in die droë sandgrond op die oewers van riviere. Dié boom word ook in vlaktes aangetref. In die Nasionale Krugerwildtuin vorm die bome bosse. Andersins is die palm ook in Natal, Swaziland en tropiese Afrika aanwesig. Die plant het waaiervormige blare en is grys-groen van kleur. Palmwindswawels maak hul neste op die onderkant van die blaar en die nes word met 'n speekselgom aan die blaar vasgesit. Dié palm het 'n eetbare vrug wat peervormig is met 'n donkerbruin kleur. Die vrug neem sowat twee tot drie jaar om ryp te word. Die soet vleis van die vrug smaak soos gemmer en vorm 'n dun laag oor 'n harde veselagtige pit. Dié laag is ongeveer 4 mm dik. Binne die vrug is 'n harde wit pit wat soos ivoor lyk. Daarom word daar soms ook na die palm as die "ivoor neutpalm" verwys.

Die Swartman gebruik die vrug op verskillende maniere. Van die harde wit saad word ornamente en knope gemaak, terwyl die vleis deur hulle geëet word. Die vrug word ook deur bobbejane en ape geëet, terwyl olifante weer die uitloopsels en jong blare verkies.

Mandjies, matte, hoede en toue word van die blare gemaak en dit word ook as dekstrooi gebruik. Die sap word gebruik om 'n drank met 'n hoë alkoholiese inhoud te maak. Dié sap word uit die afgesnyde groeipunt gekry. Dit laat die palm egter doodgaan. 'n Boom met 'n gemiddelde grootte produseer sowat 68 liters vloeistof.

Palms word reeds vir eeue vereenselwig met 'n idealistiese lewe van rus en vrede. Hierdie pragtige dog primitiewe bome is 'n aanwins vir enige landskap.

Die waaierpalm met sy waaiervormige blare.
Foto: N. Zambatis
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Die wilde dadelpalm wat op verskillende maniere deur die Swartman gebruik word.
Foto: N. Zambatis

O pragtig die kleur wat die skemeraand spre